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GENERAL VIEW

OF THE

AGRICULTURE

OF THE COUNTY OF

MIDDLESEX.

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MIDDLESEX,

WITH OBSERVATIONS ON THE MEANS OF THEIR IMPROVEMENT.

By PETER FOOT,

LAND-SURVEYOR, DEAN-STREET, SOHO.

DRAWN UP FOR THE CONSIDERATION OF THE BOARD OF AGRICULTURE AND INTERNAL IMPROVEMENT.

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1794.

BRITISH MUSEUM

TO THE READER.

IT is requeſted that this paper, may be returned to the Board of Agriculture, at its office in London, with any additional remarks and obſervations which may occur on the peruſal, *written on the margin*, as ſoon as may be convenient.

It is hardly neceſſary to add, that this report, is, at preſent, printed and circulated, for the purpoſe merely of procuring farther information, reſpecting the huſbandry of this diſtrict, and of enabling every one, to contribute his mite, to the improvement of the country.

The Board has adopted the ſame plan, in regard to all the other counties in the united kingdom; and will be happy to give every aſſiſtance in its power, to any perſon who may be deſirous of improving his breed of cattle, ſheep, &c. or of trying any uſeful experiment in huſbandry.

LONDON, FEB. 1794.

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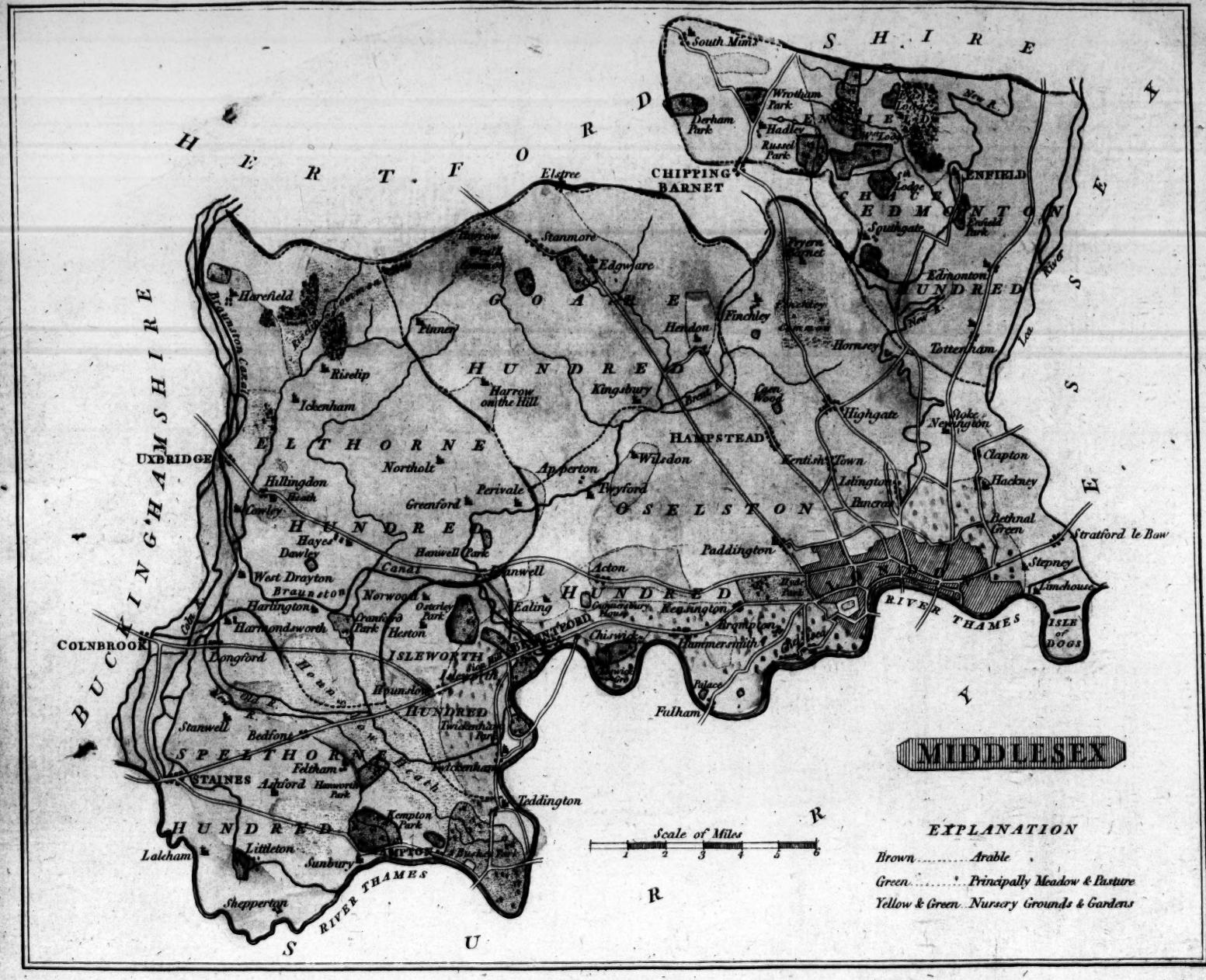
Engraved for Mr Foots *AGRICULTURAL ACCOUNT* of Middlesex



INTRODUCTION.

THE county of Middleſex is ſaid to have derived its name from the three ſurrounding kingdoms of the Eaſt, Weſt, and South Saxons. It is bounded on the North by Hertfordſhire; on the South by the river Thames, which ſeparates it from the county of Surrey; on the Weſt by the river Colne, which ſeparates it from Buckinghamſhire; and on the Eaſt by the river Lea, which ſeparates it from Eſſex. It extends about 23 miles in length, is nearly 14 miles in breadth, and 115 in circumference, and contains 240 ſquare miles, or two hundred and ſeventeen thouſand ſix hundred acres.

In the South Eaſt part of this county are ſituated the two great cities of London and Weſtminſter, and though it is the ſmalleſt, it is not only the moſt populous, but by far the wealthieſt county in the kingdom. It is divided into ſix hundreds, and two liberties; and has nearly 200 pariſhes, beſides thoſe in London and Weſtminſter.

Uxbridge, Brentford, Enfield, Barnet, Staines, Edgware, and Hounſlow, are the ſeven great market-towns; and the county-town is Brentford.

Beſides the river Lea, and the river Thames, aforementioned, there are the rivers Brent and the New-River; the latter of which ſupplies the greater part of London with water.

There is likewiſe a navigable canal leading from Hertfordſhire along the banks of the river Lea, with which it forms a junction in the neighbourhood of Bow, from whence the united ſtreams run to Limehouſe, and incorporate themſelves with the waters of THE THAMES.

The Branſton canal alſo, which is now nearly finiſhed, enters Middleſex near Uxbridge, paſſes by Drayton, runs near to Cranford, at a little diſtance from Oſterley-Park, and forms a junction with the river Thames at Brentford.

A new canal from Taplow-Mill, at Bolters Lock, in Buckinghamſhire, to form a junction with the Thames at Iſleworth, is alſo in contemplation.

THE SOIL of this county is abundantly fertile, and for paſturage, and grain of all kinds, is not excelled by any other county.

Beſides the royal palaces there are many elegant villas belonging to the nobility and gentry; and, towards the North Eaſt part of the county, are many high hills and eminences of good aſcent, remarkable for extenſive and rich proſpects, and from whoſe tops the delightful vale formed towards the South and South Weſt part of the county, is wholly ſeen.

I. THE SOIL.

THE ſoil of the HUNDRED OF EDMONTON, including South Mims, the land of which is about one-third arable and two-thirds meadow; Enfield, the land of which is about three-fourths arable, and one-fourth meadow; Edmonton, the land of which is about one-half arable, and one-half meadow; and Tottenham, the land of which is chiefly meadow, conſiſts of clay, ſtrong-loam, and a ſmall part gravel.

The ſoil of the HUNDRED OF GORE, including Hendon, Harrow, Edgware, Stanmore, and Wembley, the land of which is almoſt, without exception, meadow, conſiſts generally of a ſtiff clay, with a ſmall portion of gravelly loam.

The ſoil of the HUNDRED OF OSELSTON ſeems to be diſtinguiſhed by five kinds.

FIRST. In the vicinities of Barnet, Finchley, Highgate, Hornſey, and Hampſtead, the land of which is meadow, the ſoil conſiſts chiefly of clay, with ſmall portions of gravel and loam. Around Wilſdon a deep ſtapled ſoil clay, with a mixture of loam and gravel, prevails.

SECOND. In the vicinity of Newington, Clapham, Hackney, Bethnal-Green, and Stepney, the land of which is meadow, intermixed with garden-grounds and nurſeries, the ſoil is rich and mellow; but the vicinities of Hackney frequently partake of a ſtrong loam, approaching to a clay of that ſpecies which is called brick-earth.

THIRD.

THIRD. The ſoil around Iſlington, Pancras, and Paddington, which is almoſt wholly employed firſt in making hay, and then in paſturage, conſiſts of a gravelly loam, tending in ſome parts, but in ſmall portions, to clay.

FOURTH. In the vicinity of Kenſington, Brompton, Chelſea, Fulham, and Chiſwick, the ſoil varies from a ſtrong, to a tender or a ſandy loam, and from a black and fertile, to a white and ſharp ſand and gravel; and, in the pariſh of Chiſwick, it is remarkable, that in the deepeſt ſoil the gravel lies within two feet of the ſurface. The land of theſe diſtricts is, in a ſmall proportion, devoted to the plough, but is chiefly employed in raiſing plants and vegetables for the London markets.

FIFTH. The two remaining places of this hundred, Acton and Ealing, the lands of which are partly arable and partly paſture, ſeem to poſſeſs a ſoil in a great meaſure ſimilar to that of Chiſwick; about Acton, however, are ſometimes diſcovered ſoils of lean gravel, and of a deep ſtaple ſandy loam. In the neighbourhood of Brentford the ſoil is of a deep gravel, and towards Greenford and Perival of a ſtrong loam and clay. The lands of theſe diſtricts, are, almoſt without exception, arable.

The HUNDRED OF ISLEWORTH contains the places bordering on the river Thames, viz. Iſleworth, Twickenham, and Teddington, the land of which is arable, meadow, and garden-ground, and conſiſts moſtly of a hazel loam, or rich mellow ſoil. The pariſh of Heſton, the land of which is chiefly arable, contains a ſmall portion of light gravel, but is, in general, a ſtrong loam.

The HUNDRED OF ELTHORNE, in the vicinity of Cranford, Harlington, Hillingdon, Uxbridge, and Cowley, the land of which is for the greater part arable, conſiſts of ſtrong loam, and a ſmall part gravel.

The ſoil in and around the pariſhes of Harefield and Riſelip, the land of which is about three parts arable, and one part meadow, chiefly conſiſts of ſtrong loam, with a ſmall part gravel. The ſoil of the pariſhes of Harmondſworth and Drayton, conſiſts chiefly of light loam and gravel, and is almoſt entirely devoted to the purpoſes of the plough. The pariſhes of Northolt, Hayes, Southall, and Northcott, conſiſt of a ſoil partaking of a ſtrong loamy clay and gravel.

In the hundred of Spelthorne, the pariſhes of Teddington and Hampton, which are chiefly occupied by gentlemen, together with thoſe of Sunbury and Shepperton, conſiſt of a lean gravel, and of a light loam; Littleton, Laleham, Staines, and Stanwell, of a lean gravel and ſtrong loam; Bedford, Feltham, Aſhford, and Hanworth, of a lean gravel and light loam. The whole of the lands of theſe diſtricts is chiefly arable.

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2. GARDEN GROUND.

The only additional information to that which Mr. Baird's ſurvey affords, which I have been able to obtain reſpecting the cultivation of gardens in the ſeveral grounds around the metropolis, relates to the important article of manure.

The kitchen gardener, conſcious that the extent of his profit principally ariſes from this ſource, ſpares neither labour nor expence to procure this article. It conſiſts of new horſe-dung brought in hot from the ſtables, and thrown lightly into a heap, ſo as to afford an opportunity to the air to penetrate from the ſurface to the centre. In this ſituation

tion it is prevented from drying, by being kept conſtantly watered, and turned every two or three days, until it becomes quite black, and all its ſmell is evaporated. When this proceſs is completed, which uſually occupies the ſpace of fourteen or ſixteen days, the dung is made into a hot bed, in the form of a ridge, a ſquare, or an oblong, according to the nature of the ſeeds or plants intended to be raiſed thereon.

This manure, having thus performed its firſt office, and thereby become quite rotten, is ſpread thickly over the ground, and made to maturate the plants, which, in its former ſtate, it contributed to raiſe.

The quantity of manure laid on is in general very great.

The gardener, it is ſaid, has no known period for the ſowing of any particular kind of ſeeds (except in a very few inſtances).

He begins by general crops of each kind of ſeed as early as poſſible in the month of February, and repeats this proceſs through the whole of the ſucceeding month, until he practically diſcovers the wiſhed-for ſeaſon, by the production of a good crop. As his ſucceſs cannot depend more upon the nature of the ſoil than upon the quality of the ſeeds, no expence or labour is ſpared in procuring the beſt of each kind. To this manure, and care of ſowing ſeeds, the kitchen-gardeners who ſupply the markets at Spitalfields, who cultivate in general on a light black ſoil, owe their celebrity in the article of lettuces.

But the moſt perfect, and beſt cultivated, culinary grounds, ſeem to be in the vicinity of Chelſea, of which the neat houſes of Mr. Turwin afford ample proof. This diſtrict conſiſts of a light ſandy ſoil, richly manured. The hothouſe makes the kitchen garden complete; and, indeed, the characters of farmer and gardener, are here, in general, united in the ſame perſon; for the grounds are ſucceſſively filled with grain and vegetables. In the months of Janu-

ary

ary and February they crop with early peaſe, to be gathered and ſold in the month of June. In a few days afterwards the ground is cleared; the peaſe haulm ſtacked up for future fodder; and, the plough being ſet to work, the land is ſown with turnips, which are ſold off in the autumn; when the ground is again ploughed, and filled with coleworts for the ſpring uſe. Where the firſt crop of peaſe is of the marrowfat kind, it is generally ſucceeded by a crop of ſavoys or late cabbages. Every gardener has a favorite and particular ſyſtem in the ſucceſſion of his crops; but they all unanimouſly agree in the maxim, that to dung well, to dig well, and to ſeed well, is the only practice upon which the reaſonable expectation of a good crop can be founded.

At Iſleworth, the kitchen-gardeners adopt the following mode of preſerving endive: in winter time, a bank is raiſed three feet high, and laid ſloping to the ſun. On this bank the endive is planted out in the month of September. At the bottom of the bank peaſe are ſown. By this means the endive is prevented from rotting, and the peaſe are ripened as early as if each had been planted on borders under a wall.

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3. FRUIT TREES,

THE DIFFERENT SORTS, AND THE MODE OF ENGRAFTING THEM, &c.

FRUIT-TREES, in all the varieties of their kinds, are ſo numerous, that it was impoſſible to collect information of all of them within the time allotted to this ſurvey, with ſufficient preciſion to lay before the Board.

There is a general catalogue of fruit-trees, &c. now compiling, in which the fruits are painted from nature, and the character of each when ripe particularly deſcribed, together with their ſeveral qualities, in the moſt correct manner. This work has already occupied three years of inceſſant labor; and nearly as much more, of both time and labor, will be neceſſary to render it fit for the public peruſal.

The nurſerymen about London are at conſiderable expence in collecting the choiceſt ſort of peaches, nectarines, apricots, vines, apples, cherries, pears, plumbs, quince, medlars, filberts, &c. &c.

The method of engrafting fruit-trees in the ſeveral gardens about London is, in general, the ſame. It is performed in the following manner: The ſtocks to be grafted, after being properly planted out in rows, and made fit for the operation, are, when intended to form dwarf fruit-trees, headed down with a ſharp knife, within ſix or ſeven inches of the ground, a little ſloping to the ſouth ſide of the ſtock. The perſon who performs this operation, is immediately followed by another, very cloſely, who with one ſtroke, or wipe of his knife, cuts off about two inches in depth, or the fourth part thereof, or nearly ſo, of the ſouth ſide of the ſtock, and then cuts about half of the ſcion intended to be laid very cloſe to the ſtock. The bark, of both the ſtock and the ſcion, muſt perfectly join, at leaſt on one ſide. A third perſon immediately follows the grafter, for grafting muſt be performed with great expedition; and, with new baſs, or matting well wetted with water, ties both together very carefully, leſt they ſhould be in any degree moved or diſplaced, which would ſpoil all.

When the ſtock and the ſcion are cloſely tied, a fourth perſon, in order to exclude the winds, which would otherwiſe dry the ſtock, follows with clay well wrought, and puts

puts about the ſize, and in nearly the ſhape, of a gooſe's egg, upon each; the top of the ſcion ſtanding perpendicularly out, at the length of two or three buds. Cherries and plumbs muſt be graſted, or wrought, early in the month of March, if poſſible; and the ſcions of all ſtone fruit-trees ſhould be taken off in the month of February, or May, and laid about half in the earth; for, if they are left on, and the ſap riſes, they will, when cut, appear brown and ſpent at the heart; and ſcions, with this appearance, ſeldom if ever ſucceed.

The finer fruits, ſuch as peaches, apricots, nectarines, &c. are always inoculated, or budded, at the end of June, in July, or the beginning of Auguſt. This proceſs is far preferable to grafting. The bark of the ſtock is cut on the north ſide, perpendicularly, about two or three inches, and gently opened with the handle of the budding knife; and, the bud, or ſcion, being put in with the greateſt care, the bark is cloſely tied down with wet baſs or matting. This ſhould be done, if poſſible, in a moiſt or cloudy day, early in the morning, before the heat of the ſun prevails, or, in the afternoon, after it has ſubſided, as all hot and ſultry ſeaſons are unfriendly to this proceſs.

As to the culture of foreign plants, ſhrubs, &c. I find that foreign plants were firſt cultivated for ſale by the late Mr. James Gordon, at Mile End, whoſe nurſery-ground, now in the occupation of his family, is ſtill, in many reſpects, the firſt of its kind. Lee's nurſery, at Hammerſmith, particularly for foreign plants, is alſo of ſuperior excellence.

To deſcribe the almoſt endleſs variety of this ſpecies of plants would be impoſſible. The methods of cultivating them are various; as by ſowing, laying, cutting, grafting, and budding. The trees raiſed in the nurſery-grounds in the diſtrict of Hackney are chiefly ſold in England for the

purpoſes of pleaſure-grounds, or ornamental gardening; many of them, however, are exported to Spain, Portugal, Italy, Ruſſia, and, before the Revolution, to France: but the quantities exported bear no proportion to the numbers ſold for Engliſh uſe. Before I quit my obſervations upon this diſtrict, it may be uſeful to inform the Board, that at Hackney, Mr. Lodwick's nurſery is of great importance and extent. He raiſes by a particular mode of culture a vaſt number of American plants, and has at this time a collection of Botany Bay plants in the fineſt ſtate of cultivation. At Dalſton alſo, Meſſrs. Smiths are ſaid to poſſeſs a peculiar method of cultivating foreign flowers. Brompton, Kenſington, Fulham, Hammerſmith, Chiſwick, Brentford, Iſleworth, and Twickenham, are almoſt a garden and orchard of apple trees, pears, plumbs, cherries, &c. and in rearing them nearly the ſame methods are followed. Iſleworth is alſo celebrated for ſtrawberries.

To the foregoing information I am happy in being able to add the obſervations of Mr. Alexander Bowie, upon the culture of the vine; a gentleman, whoſe attention to the ſcience of Horticulture, during the courſe of many years, has enabled him to procure much intelligence upon this ſubject.

James Geſſop, gardener to John James, Eſq. of Hammerſmith, in the year 1778, made a quantity of exceeding good wine from Engliſh grapes, which induced him to attend very particularly to the cultivation of the vine. His method of treating this celebrated and uſeful fruit-tree was as follows: the vine, when it firſt came under his care, was aged, but had been injured more by neglect, and injudicious management, than by years. He cut almoſt the half of the whole ſtem quite away; and layed down half of the remainder of the wood; and the abundant crop of improved fruit which ſucceeded gratefully repaid his care: The vine, by continual cutting, conſiſted, in the enſuing year, of almoſt entirely new wood. In the year 1779 he cut down all the

old

old wood which was left, and laid the fineſt wires he could ſelect, perpendicularly, about eighteen inches aſunder; ſome of them three, and others ſix feet long; and by this means covered the wall with plenty of well-ripened wood. In the year 1780, according to cuſtom, he cut off all the old wood, and laid the young wires perpendicularly in the ground ſix or ſeven feet in length, and at the diſtance of eighteen inches from each other; and of the full crop of excellent grapes which this culture produced, he made wine in the proportion of 100 gallons to 100 yards of wall.

I am perſuaded, that, from Hammerſmith to Staines, vineyards might be made at little expence, if a ſmall premium were given to adventurers, and no tax laid upon them for ſome years. It would be well worth the attention of the Board, and would, with care, in a ſhort time, produce a good revenue to the crown.

On the ſubject of the management of nurſeries, with reſpect to their ſoil, the general opinion ſeems to be, that a rich ſoil is far preferable to a poor ſoil. Some kind of trees, however, love, when tranſplanted, a poor ſoil. The "Spaniſh cheſnut," and the beach tree, are beſt reared on a poor gravelly bottom; and all ſorts of "pines" ſucceed beſt on a mountainous and marley ſoil. The fine quality of the timber is ſaid to encreaſe in proportion to the ſlow growth of the tree.

Mr. Lee, of Hammerſmith, has already made great progreſs in the propagation of foreſt-trees, as well as of plants. Mr. Wheatley, likewiſe, of Brompton, raiſes quantities of hardy trees. But although the inclination for the culture of this ſpecies of tree ſeems encreaſing, it has yet, from want of proper encouragement, made very little progreſs. The quantities raiſed in the county of Middleſex are very ſmall; but, from the beſt intelligence I could procure,

elm,

elm, beech, larch, platanes, pines of all ſorts, birch, aſh, cheſnut, walnut, acacia, and laburnum, might, with proper encouragement, be cultivated in this county to a very beneficial extent.

The beſt ſoil for raiſing foreſt-trees, is ſaid to be a good loam.

The waſte-lands in the county of Middleſex, would, if divided, inc'oſed, and improved, produce fine crops of corn; or foreſt-trees might be reared thereon with little expence. Mr. Bowie, whoſe name has already appeared in this report, and who is well acquainted with every part of Middleſex, informs me that the ſoil of the waſte-lands, throughout the county, is well ſuited to the growth of foreſt-trees; that he would engage to encloſe in ſummer, and plant in autumn, not leſs than two millions; and, that if the Board will pay for labour, he will find plants for three years.

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4. COLOURS FOR DYING.

A SUBSTITUTE for madder, from our own indigenous plants, was introduced, in the year 1789, into the nurſery-grounds of Mr. William Gordon at Bow, by the diſcoverer Dr. C. Gordon; he being authoriſed, by the Lords of the Committee of Privy Council for Trade, to hire one or two acres of land for the cultivation of the madder plant, in order to aſcertain to what degree it is capable of improvement, and at what expence it might be cultivated. Various experiments were made, from time to time, to aſcertain

theſe facts, and they have been in general ſufficiently ſatisfactory. The plant is found to encreaſe, in all its parts, to, at leaſt, one third more by cultivation than when wild and uncultivated in the open fields, and that without injuring its colouring qualities. To effect this, however, a light, deep, and dry land, is indiſpenſably neceſſary; which by a due management, equally plain, eaſy, and ſimple, will, at the termination of the fourth year from the planting out, produce a crop of three to four tons on every acre. The colour that this root gives to woollen goods, duly prepared, is truly elegant, and approaches nearer to the ſcarlet of cochineal than to the red of madder, which, in compariſon, ſinks to a ſpecies of aukward brown. The top part of the plant anſwers the purpoſes of *weld*, and gives, particularly to cotton and linen, an elegant and durable yellow. The tops may be annually cut down without prejudicing the roots, and may therefore be ſent regularly to market, and made to reimburſe the cultivator a portion of his expences. This is certainly a valuable diſcovery in the art of dying, and an important acquiſition to the trade and commerce of Great Britain, as well as to the internal improvement of the country. But this gentleman's diſcoveries are not ſolely confined to his ſubſtitute for madder; he has alſo diſcovered the article of cudber, and that likewiſe from the indigenous plants of this country, of which article there are now many manufactories in the metropolis; particularly one erected only a few months ago, in Weſtminſter, and carried on under the eye of Mr. Modigliani of Lombard-ſtreet, and ſeveral other able and ſcientific men. But this is not all, for I am credibly informed, that Dr. Gordon has extended his diſcoveries in the art of dying, to the whole circle of tints; and that he dyes fixed and elegant colours, at a cheap and eaſy rate, by means of ſuch indigenous plants, as either abound

abound ſpontaneouſly in the fields and foreſts of Great Britain, or may be eaſily cultivated in her gardens and nurſeries ſo as to ſupply, at all times, the utmoſt demand of trade.

To conceal theſe diſcoveries from foreigners who might take advantage of the information, the claſſes of plants, which have been found capable of producing theſe tinctures, have not been named; and more particulars have not been diſcloſed, becauſe they were conceived by me to be unneceſſary, as a Committee of the Houſe of Commons has already examined into the merits of theſe ſpeculations, and received ſatisfactory information on the ſubject: and to this enquiry I therefore refer the attention of the Board for farther particulars.

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5. SYSTEM OF HUSBANDRY.

THE moſt material branch of huſbandry, ſeems to be a proper and judicious rotation of crops, ſo as to keep the ground always in heart, and yet to draw out of it the greateſt poſſible profit.

In the diſtrict of South Mims, which conſiſts of a wet ſoil, and thin cold clay, the ſyſtem of huſbandry is—

1 Summer fallow.
2 Wheat.
3 Beans, peaſe, or oats.
4 Summer fallow.

On the lighter, or better part of the land.

1 Turnips, on a ſummer fallow.
2 Barley, with broad clover.

3 Clover, to be either fed or mowed.
4 Wheat, on the clover lay, with one ploughing.

In the diſtrict of Southall, Norwood, Northcott, and Hayes, the ſoil of which conſiſts of a ſtrong loam clay, and gravel, &c. the rotation of crops, in thoſe parts which lie in common-fields, is

1 Fallow.
2 Wheat.
3 Barley, or oats with clover.

In the incloſed lands.

1 Wheat.
2 Barley and clover.
3 Turnips.

In the diſtrict of Fulham, which conſiſts of a light, black, and fertile ſoil, the farmers ſow

1 Barley.
2 Coleworts, off in March.
3 Potatoes, off in October.
4 Wheat.
5 Turnips or tares.

Manuring well after the barley.

In the diſtrict of Edmonton, which conſiſts of ſtrong loam, they manure well for

1 Potatoes.
2 Wheat.
3 Turnips, on wheat ſtubbles.

4 Oats, or tares, or peaſe, or beans, to be gathered.
5 Wheat.

The lands about Heſton are chiefly of a ſtrong loam, and celebrated for producing the fineſt wheat in the county; the ſkin is thin, the corn full and bold, and the flower white, or, as the millers term it, fair. The rotation of crops are,

1 Wheat.
2 Barley, with clover, mowed twice.
3 Peaſe or beans, to be gathered.
4 Turnips.
5 Wheat.

The lands around Harmondſworth conſiſt of a light loam and gravel, and are cropped with

1 Clover, well dreſſed with coal aſhes.
2 Peaſe, beans, or tares.
3 Wheat, turnips on the ſtubbles fed off.
4 Barley.
5 Oats.

The ſoil of Chiſwick is from a ſtrong to a tender or ſandy loam and from a rich and fertile, to a white and ſharp ſand and gravel. The rotation of crops in this diſtrict is as follows:

1 Vetches for Spring feed, or peaſe or beans to be gathered green.
2 Turnips, which anſwer very well on incloſed land; they are not fed off, but ſold to, and drawn by, the London cow-keepers.
3 Wheat.
4 Barley or oats.

But

But before the pulſe is ſown, and alſo between the wheat and the barley, the land is well manured.

THE FARMERS in this diſtrict have been obliged to purſue this practice, on account of the *Lammas Tenure*; by which the land is deprived of that reſt which is ſo eſſential to reſtore its exhauſted vigour, and which would be obtained by the following courſe, viz.

1 Pulſe.
2 Turnips.
3 Oats or barley, with clover.
4 Wheat.

Manuring well before the pulſe.

But, by this rotation, the Lammas graziers would avail themſelves of the advantage of the clover crop to the injury of the tenant; he is, therefore, obliged to ſubmit to the expence of an extra manuring to purſue the firſt order of cropping: it is, however, obſervable, that this extra-dreſſing does not recover the land equal to the reſt obtained by a clover lay; and that ſuch conſtant tillage is a great promoter of ſmutty wheat.

Rye and Winter vetches are uſually ſown in this county about old Michaelmas, and wheat from that time to Chriſtmas; but when the ſeaſon, and all circumſtances will admit, the month of October is preferred for wheat.

Peaſe and beans, of various ſorts, are ſown from Chriſtmas to Lady-day.

Summer vetches from Lady-day to Michaelmas, for late feed.

Oats and barley, with rye-graſs and clover, from February till May; but oats ſucceed beſt in general, if ſown before the month of March is expired.

The hay-harveſt is in general about Midſummer, and the corn-harveſt about the month of Auguſt.

THE BARLEY which grows in the pariſhes of *Chelſea*, *Fulham*, and *Chiſwick*, has been for many years diſtinguiſhed for its good quality, and has been much ſought after for ſeed. When the farmer, from a multiplicity of buſineſs, cannot get his land into a fine tilth time enough, or that he has not eat off or drawn his turnips, or is retarded through the inclemency of the weather, the barley is the propereſt ſeed to ſow, even ſo late in the ſeaſon as the month of May; for, though it is late ſown, it grows quicker than any other ſort, and is frequently ripe ſo early as the month of *Auguſt*. Experience has proved it to be the beſt barley for malting, after having been once ſown in loamey or ſtiff lands, which give it a much larger body than the ſandy loamy land it came from.

This barley has a great advantage over all other kind of barley; for being, by its quick growth, leſs time abroad, it is leſs expoſed to great rains, which always prove unfriendly to the culture of this grain. This is the reaſon why the farmers of theſe pariſhes have the *whiteſt*, moſt thin *ſkinned*, and *melloweſt barley* in England, and which always fetches the greateſt price when ſold for ſeed or for malt. I underſtand, however, that beneficial as the cultivation of this ſpecies of grain has been, it has of late years decreaſed conſiderably, and been ſupplanted by the ſuperior profit produced by the growth of vegetables for the London markets. A buſhel, of the Wincheſter meaſure of this barley, weighed, under my own inſpection, fifty-two pounds; but, I am informed, that, taken on an average of years, it will weigh fifty-ſix pounds weight.

The ſeed of the different kinds of grain ſown on an acre is nearly as follows:

	Buſhels.
Wheat, - -	3 an acre.
Barley, - - -	4½

Oats,

Oats, - - -	5 buſhels an acre.
Beans, - -	4½ buſhels hand drilled.
Peaſe, - -	3½ buſhels an acre.
Clover ſeed, about	12 pounds an acre.
Turnip ſeed, -	2½ pounds an acre.

The produce throughout the county of the above different kinds of grain an acre, is difficult to aſcertain; but, on an average, according to the moſt authentic information that I have been able to procure, is nearly as follows:

	Quarters.
Wheat, about -	3½ an acre.
Barley, from	4½ to 5
Oats, from	4½ to 5
Beans, from	3½ to 4
Peaſe, from	3½ to 4
On the general average of years and ſoils, Clover-hay, firſt cutting, about - -	1½ ton an acre.
Second cutting, about -	1 ton an acre

Turnips from about 4½ to 9 guineas an acre; but, as they are generally ſold to the cow-keepers, the price varies according to the diſtance of the carriage, and the ſcarcity or abundance of the crops.

6. MANURES.

The price of ſtable-dung is about two ſhillings a cart-load.

The price of night-ſoil, horſe-bones raw, bones boiled, bones burnt, and coal-aſhes, ſix ſhillings a load; ſoot eight pence a buſhel; horn-ſhavings from ſix to ſeven ſhillings a ſack, of eight buſhels, well ſtuffed; leather, duſt, and ſhreds, two ſhillings and eight pence a ſack, of five buſhels, well ſtuffed; the ſcrapings of ſheep trotters, calves feet, and cow heels, eight ſhillings a quarter; woollen rags, from two ſhillings and four pence to three ſhillings a hundred weight; and hogs hair, if wet, fifteen ſhillings a cart-load.

The above are the prices in London.

The chimney-ſweepers, &c. who ſell ſoot in London, mix it, if not prevented, with aſhes ſifted very ſmall and fine: this they term "ſpicing the ſoot."

The expence of each load, when back-carriage is reckoned, to South Mims, which is thirteen miles from London, is 10*s.* a load; at Hendon, which is ſeven miles from London, it is 6*s.* a load.

But if the farmer ſend his team on purpoſe for manure, which is ſometimes the caſe, the expence of carriage will be enhanced conſiderably.

The barges on the river Thames, ſupply from the different dung-wharfs, thoſe cultivators of land who reſide near the banks of the river, at a much cheaper rate. This manure is compoſed of horſe-dung and the ſweepings of the ſtreets mixed together.

It is delivered at any diſtance capable of being reached in one tide, at the price of about four guineas for ſeventeen or eighteen cart-loads, each load conſiſting of nearly two tons weight.

The cultivators are ſupplied with dung from the different wharfs by the river Lea canal, in barges which carry about thirty tons, or fifteen cart-loads, and deliver the ſame as far as Enfield, which is about thirteen miles, for £4. The price of the dung is about thirty ſhillings more.

Chalk is brought out of Hartfordſhire by the river Lea canal barges, from Ware park and its environs, and delivered at Enfield at the rate of £4. for about thirty tons; and it is found to anſwer as manure on light land with tolerable ſucceſs: it retains the moiſture in a dry time, and on that account is uſeful to a hot, ſandy, and gravelly ſoil; but, in a very wet cold ſeaſon, that retention of moiſture proves rather hurtful, as it checks the fermentation in the earth, which is the grand principle of vegetation, unleſs counteracted by a dreſſing of dung after it.

The dung which is made in the farm yard is alſo collected into heaps, and mixed with other articles, as loam, aſhes, mortar, rubbiſh, rakings of the roads, and formed into a manure.

Sheep-folding is uſed in different pariſhes in the county, particularly around Hounſlow Heath.

Mud, as taken out of ponds and the rivers, particularly on Hounſlow Heath, is found to anſwer as a ſlight manure both on arable and on paſture lands.

The gardeners manure twice every three years at leaſt; the farmers in general only once; and the expence is from about £5. to £8. an acre, according to the diſtance of carriage and the quantity of manure laid on.

7. PRICE OF LABOUR.

LABOURERS in huſbandry are paid 18*d.* and 20*d.* a day. This is the general price of labour throughout the county; but in the more immediate vicinity of the metropolis, thoſe labourers who are called handy workmen are paid as high as 2*s.* a day, as well in ſummer as in winter. The time of work in ſummer commences at ſix o'clock in the morning, and ends at ſix o'clock in the evening, and during the winter months they work from light to dark, or from about ſeven o'clock in the morning to five o'clock in the evening. During the ſummer months they have the privilege of working over-hours, for which they are paid in proportion to their regular wages.

The price of labour by the piece is as follows:

	s.	*s.*	
Mowing graſs for hay, from	3 to	6	an acre,
Mowing oats and barley,	3 to	4	ditto,
Hooking peaſe, - -	3 to	4	ditto,
Reaping oats and rye, -		8	ditto,
Reaping wheat, - -	10 to	12	ditto,

according as the crop is for ſtrength, and whether ſtanding or lying down. In the aforementioned prices of reaping is included the labour of binding the crop into ſheaves, and ſetting them up into ſhocks, which is performed by the method called "bagging," an operation by which the ſtraw is cut cloſer to the ground than is generally done by hand-reaping.

reaping. It is, however, a very ſlovenly practice, and adopted only on account of its being more expeditious.

The price paid for hoeing turnips is from 10*s.* to 12*s.* an acre.

Threſhing is, in general, a daily labour, and is paid for at the ſame rate of wages as before deſcribed, except for barley and oats, which are threſhed by tale, at the rate of 2*s.* 6*d.* a quarter, in which price the binding of the ſtraw into 40lb. truſſes is included.

In threſhing rye and wheat the threſhers are paid for as many truſſes as they can threſh cleanly out in a day

Women, in great numbers, are frequently employed by the farmers and gardeners around London in weeding, in making of hay, and in gathering the green peaſe, beans, and other produce of the gardening lands, for the London markets. Their hours of labour are nearly the ſame with thoſe of the men. They claim the privilege of gathering the green and ripe fruits by an eſtabliſhed meaſure. But the price of their labour is only one half of what is paid for the ſame work to their fellow-labourers of the other ſex.

At a greater diſtance from London common labourers are, in the winter-time, paid from 8*s.* to 9*s.* a week. They work from ſeven o'clock in the morning until five in the afternoon: In ſummer they are paid from 10*s.* and 12*s.* a week, and work from ſix in the morning until ſix in the evening.

The price of piece work is as follows:

	s.	*s.*	
Reaping and binding wheat, from	8	to 10	*per* acre.
Mowing, raking, and cocking, barley and oats, - - - - - -		3	ditto.
Reaping and binding beans, - -	7	to 9	ditto.

Hay-binders are paid 20*d.* a load for cutting and binding; and a good hand can cut and bind two loads a day.

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8. COMMONS.

THERE are many thouſand acres of land in the county of Middleſex, within a few miles of the capital, which at preſent lie waſte, and are of little or no value to the individuals intereſted in them; an abſolute nuiſance to the public; and yet capable of very great improvement.

The benefits that will neceſſarily, and almoſt immediately, reſult to ſociety, as well as to the proprietors of theſe lands, by their being put into a ſtate of cultivation, is too obvious to every man who has thought upon the ſubject to need proof or illuſtration.

It would certainly be found of great and important advantage to the proprietors of waſte and other lands, in this county, over which a right of common is exerciſed for any part of the year, if all ſuch lands and grounds were divided and allotted in ſeveralty, in proportion to the rights of the parties intereſted in them, for the purpoſes of incloſure and cultivation.

Thoſe among whom theſe kind of lands have been already divided, have never been diſappointed in their expectations as to the reſult of their experiments; but, on the contrary, have derived very great and conſiderable benefit from them; and no ſmall increaſe has been made to the rentals of their landed property, in conſequence of thoſe diviſions.

diviſions. But the gain ariſing to individuals, is by no means the only good, that would be produced by the diviſion and improvement of waſte and commonable lands: the public would immediately profit by it in no ſmall degree; for the ſuſpended hand of induſtry would thereby be conſtantly furniſhed with employment; the prevailing notions of emigration removed by the proſpects of advantage it would afford; and the public would be enriched by the conſequent increaſe of the general ſtock of corn and cattle.

The uſual mode of atchieving a diviſion of the common lands of particular diſtricts, is for the principal proprietors to call a general meeting, of all perſons entitled to a right of common, or any way intereſted therein, in order to diſcuſs the expediency of dividing and incloſing it; and if a majority of two thirds, or three fourths in value, are in favor of the diviſion, notices are affixed to the door of the pariſh-church, ſignifying the intention of the parties to apply by petition to Parliament, for an act to empower and require ſuch diviſion to be made, by the judgement and diſcretion of commiſſioners and arbitrators to be named therein, and on ſuch clauſes and regulations as ſhall be agreed on by the parties intereſted, ſubject of courſe to ſuch alterations and amendments as ſhall be made in it by each Houſe of Parliament. But this mode of procuring a diviſion of commons by a ſpecial application to Parliament, is always burthened with great expences, and ſubject to many great inconveniences and difficulties, which frequently prevent its being adopted. And, indeed, it ſeems an opinion almoſt unanimous among thoſe who have thought upon this ſubject, that one general act of Parliament, to empower the diviſion and incloſure of all the waſte and commonable lands in the kingdom, would

be thankfully received by every individual, and prove an equal benefit to them and to the public.

The encouragement which has of late been given to the opening of new communications through the country, by making navigable canals in different parts of it, tends very conſiderably to facilitate the improvement of waſte lands; and if not carried to too great a length, or ſacrificed to the ſchemes of intereſted projectors and mercenary jobbers, muſt prove a national benefit: For navigable canals introduce abundance of lime, chalk, and other manures, to the different parts of the country through which they run, and where they were never ſeen before.

But it is time to paſs from theſe general obſervations to the ſubject of THE COMMONS in the county of Middleſex.

Among the commons, now uncultivated in the county of Middleſex, are

Hounſlow-Heath.
Finchley-Common.
The remains of Enfield-Chace.

The commons in the pariſh of Harrow, are

Harrow-Weald-Common,
Pinner-Common,
Sudbury-Common,
Pinner-Marſh,
Roxhull-Green,
Apperton-Green,
Wembley-Green,
Kenton-Green,
Greenhull-Green.

The

The commons in the parish of Hillingdon and Uxbridge are

Uxbridge-Moor,
Uxbridge Common,
Memsey-Moor,
Hillingdon-Heath,
Gould's Green,
Péil-Heath.

There are also

Riselip-Common,
Sunbury-Common,
Hanwell-Common,
Worm-wood shrubs, in the parish of Fulham,

And between four and five hundred acres of waste-lands in the parish of Hendon, &c.

Of these waste-lands, however, I have only been enabled to procure accounts of the following particulars.

9. STANWELL INCLOSURE.

The waste-lands of the parish of Stanwell previous to the inclosure, of which there is an account in the former survey, consisted of something more than 500 acres; of which about 350 acres were part of Hounslow-heath. In their former state, they were worth little or nothing; but such was the effect of inclosing them, that they were let immediately afterwards from 15*s.* to 25*s.* an acre, and upon an average at £1.

The common-field lands were, on being inclosed, almost throughout the whole parish, improved in rent from about 14*s.* to £1. an acre.

On

On the incloſure taking place, I am informed that thirty acres were ſet apart, and let for £1. an acre *per ann.* and that every cottager, in the pariſh, who did not receive alms, and did not rent a cottage of more than £5. a year, had a proportionable part of ſuch rent divided among them in equal proportions.

The tenants have found great advantages in ſowing artificial graſſes and turnips in that part of the incloſure which lay formerly in common-fields, and are thereby enabled to keep as much ſtock on part of the land as they did before on the whole; and when that part, which has been taken in from the heath, is brought into a regular courſe of cultivation, there cannot be a doubt but that the tenant will derive advantages equal to thoſe which the land-owners enjoy; but, as the greater part of the new-incloſure is not yet brought into a regular ſtate of cultivation, it is impoſſible to give a particular account of the quantity or quality of its produce *.

* To the foregoing obſervations relating to a portion of ground formerly part of Hounſlow Heath, I ſhall ſubjoin the copy of an ancient ordinance, with which I was kindly furniſhed by Sir William Gibbons, bart. of Stanwell place, and which ſhews the original rights, claimed by different pariſhes on Hounſlow-Heath.

HOUNSLOW-HEATH.

The Bill of Hounſlow-Heath, 37 Henry VIII.

WHERE the King's Majeſtie ys at this preſent ſeaſed of one eſtate of inherytance of the waſte grounde and ſoyle comonlye called Hounſloo-Heath, conteyning in ytſelf ffower thouſand twoo hundryth ffower ſcore thyrtene acres and one roode, lying and extending into the fields, pariſhes, and hamlets, Iſtelworth, Braynford, and Twykenham, Heſton, Feltham', Harlington, Craynfeld, Harmondeſworth, Stanwell, Hanworthe, Bedfounte, Hampton, Hounſloo, and Tedington, in his Grace's countie of Middleſex; his Highnes moſt prudentlie conſidering, that as the barreneſs and infertylitie thereof, by waunte of dylygence and induſtrye of men, neceſſarylye requyred for the amendment or mayntenance of any grounde that ſhall bryng forthe his frute, breadythe as well ſcarſytie and lacke of all manner of grayne, graſſe, woode, and other ne-

neceſſary thynges, amongs his Grace's ſubjects thy inhabitance of the ſaid pariſhes, as alſo is the veraie oryginall mother and contynual nurs of derth of thyngs amongs his people dwelling in the confynes of the ſame, even ſo the converſyon therof into tyllage and ſev'al paſture by menys labor and paynes, beſyds that yt ſhall be an exile of idlenes in thoſe parties, muſt of neceſſyte cauſe and bryng furthe to all his ſaid ſubjects plantie and habandance of all thyngs above remembred; and albeyt his Highnes myght juſtelie, by the auncyent lawes of this his realme, approve to his owne peculyar proffytt and advantage a greate parte of the ſame waſte and heath; neverthelefs, his Majeſtye moſt gracyouſlye tendering more the common wele of his ſubjects there than the advauncement of his owne comodytie, hath not alonlie already, to his great coſts and charges, cauſed dyverſe of his counſell, and others of his offycers and mynyſters, by vertue of his Grace's commyſſion in that behalf to them dyrected, to repayre thither, to vewe, ſurvey, and conſider, the ſaid waſt and hethe, and thereupon to aſſigne out, by mete and bounds, to every of the ſaid pariſhes, a convenyent parte and porc'on of the ſame, and owt of thoſe parts and porc'ons, by lott, to apoynte in ſeveraltye to everye inhabytant within the ſaid paryſhes and hameletts ſuche quantite of the ſaid heathe, as by the dyſcrecyon of the ſaid commyſſyoners was thought mete and convenyent, having a ſpecyall regard to the nombre of the inhabytants in every pariſhe, and to the nombre of acres of hethe lymyted to everye of the ſaid hamcletts and paryſhes; but alſo is contented and pleaſed, at the humble petycion and ſute of his ſaid ſubjects, to whom and thair poſteritye the comodytie hereof ſhall ſpecially redounde, that yt be enacted by his Highnes, as hereafter enſythe: Wherefore be yt ordayned, enacted, and eſtabliſhed, by the King, with thaſſent of the Lordes Spiritual and Temporall, and of the Comons in this preſent P'liament aſſembled, and by the authorytie of the ſame, that ſuche parte and ſo muche of the ſaid waſte and hethe whereof his Grace is now ſeaſed, or at any time hereafter ſhall be ſeaſed of one eſtate of inherytance, as ſhall be at any time hereafter by his Grace's comyſſoners, or ffower of them heretofore named, or hereafter to be named, certyfied under their hands and ſeals, into his Highnes Court of the Augmentac'ons of the revenues of his Grace's crowne, to be mete and convenyent to be converted, uſed, or occupied, into tyllage, paſture, meadow, or other ſeverall grounds, ſhall from hensforth immedyatly be and remayn perpetually copyhold lands, and ſhall be deamed and adjudged of the nature, qualetye, and condicon of copyhold lande, to all intents, conſtrucc'ons, and purpoſes. And that every tenente, inhabytant, reſyante, and others, their heires, ſucceſſors, and aſſignes, and the heirs, ſucceſſors, and aſſignes, of every of them, ſhall have and enjoye ſuche ryght, tytle, intereſt, poſſeſſion, remaynder, and reverſyon, of and in the porc'on and parte of the ſaid waſt and hethe, to them or any of them by the ſaid commyſſyoners aſſigned, or to be aſſigned, as ſhall be by the

ſaid

ſhid commyſſyoners, or fower of them at the leſt, by copy to them or any of them to be hade and made, declared, or expreſſed, and the ſame ſhall be certyfyed in to the ſaid court of Augmentacions under there hands and ſeales. And be yt further enacted, by the authorytye aforeſaid, that all and every tenate, inhabytant, and reſyant, and other above remembered, ſhall immedyatlie after certificat, made as ys aforeſaid, be deamed, adjudged, and taken to be tenate, by copy of court rolle, of the part and porcion to them, or any of them, as ys aforſaid alloted and granted by copy of court rolle to ſuch mannor or lordſhip being within the ſaid pariſhes and hamletts, or any of them, as the ſaid comoſſyoners, or fower of them at leſt, uppon the ſaid certyfycat, ſhall, under thair hands and ſeales, aſſigne and appoynte them or any of them unto, and according to the tenor of the copy of courte rolle to hym or them made of the ſame; and that after aſſigment and certyficat made as ys aforeſaid, the ſame parts and porc'ons ſhall be taken, had, and reputed, to all intents perpetuallie, as only members and parcells of the mannor or lordſhip whereunto they ar ſo appointed and aſſigned; and that the ſtewarde for the tyme being of any ſuch manors or lordſhipps, whereunto any part or porc'on of the ſaid hethe or waſte, ſhall be by the ſaid comyſſyoners, or ffower of them, aſſigned unto, ſhall, after certyfycat thereof as ys aforeſaid, have full power and authority from tyme to tyme, as the caſe ſhall juſtlye requyre, to lett and grant the ſame, by copy of courte rolle, to any perſon or perſones, to hold the ſame parts and porc'ons, accordyng to the eſtate and intereſts preſcribed in thair copees, at the wyll of the lord, accordyng to the cuſtome of the mannor or lordſhippe whereunto the ſaid party and porcons are as ys aboveſaid aſſigned or appointed to apperteyn; and alſo, that all cuſtomes, uſages, condycons, and ordynances, which the ſaid comyſſyoners, or fower of them at the leſt, ſhall at any tyme hereafter preſcrybe, rendre, decree, or make, concerning any parte or parcell of the ſaid waſt or hethe, ſhall be as good, fyrme, and ſtable in the lawe, beyngg certyfyed under the handes and ſeales of the ſaid comyſyoners, or fower of them at the leſt, into the ſaid court as ys aforſaid, to all purpoſes and effects, as yff thaie and every of them were particularly recyted and enacted by authorytye of this Parlyament. Provyded allwayes, that yf any ſuche perſone or perſones, to whom any parte of the ſayd waſt and hethe ſhall be alloted, do ether refuſe to take by copy of court rolle the parte and porc'on to him alloted, aſſigned, or letten, or to be alloted, aſſigned, or letten, as ys aforſaid, or ells refuſe to convert his ſayd part or porc'on into tyllage or paſture, and in ſuche ſorte to improve the ſame, within ſuch tyme as to hym or them ſhall be preſcrybed or aſſigned by the ſaid comyſſyoners, or fower of them at the leſt, that then ſuche perſone and perſones as be or ſhall be tennte for terme of lyf, for terme of yeres, or at wyll, of ſuch meſſe, cotage, or lande, in reſpect wherof the ſayd parte and porcon is or ſhall be alleted or aſſigned, ſhall and maye take, have, and receyve of the ſayd ſtewards, the ſaid parte and porcon of the ſaid waſt, to hold at the

will of the lorde, after the cuſtome of the ſaid mannor or lordſhippe, for terme of twenty-one yeres; the remainder thereof, after the end and determination of the ſaid leaſe of xxi yeres, to the owner of the ſaid meſſe, cotage, or lond, to holde to him, his heires, and aſſignes, at the will of the lorde, after the cuſtome of the ſaid mannor. And be yt farther enacted, by the ſaide authoritye, that yf the ſaid leſſee refuſe that to take as ys aboveſaid, that then any other the King's ſubjects, borne under his Grace's obedyence, ſhall and may take, have, and receyve, the ſame parte and porcon of the ſaid waſte, as ys aboveſaid, for term of xxi yeres, with remaynder to the ſaid owner, as ys aboveſaid. Provided alſoe, that all and everye ſuche leſſee for term of xxi yeres, as ys aboveſaid, ſhall and maye improve the ſaid parte and porcon of the ſaid waſte and hethe to hym letten, by copye of court rolle, during the ſaid xxi yeres, without any interrupc'on of any owner of any ſuche meſſe, cotage, or londs, any ſurrendre, diſcharge, determinacon, or forfayture, of his or thair intereſt, eſtats, or terms, of and in any ſuche meſſe, cotage, or londs, notwithſtanding.

Signed, GEORGE ROSE,
Cler. Parliament.

10. ENFIELD CHACE.

THE parish of Enfield, in its extent, its value, and its resources, is as follows:

FIRST, the contents of the parish of Enfield in statute acres—

	A.	R.	P.	Av. value per acre.	Rental of parish.
Inclosed pasture -	1,646	3	24	30	2,469
Ditto arable and pasture	1,245	1	13	20	1,245
Common-field land	2,746	3	29	15	2,059
Marsh-land -	794	0	9		
A.	6,433	0	35	Total rental of land	5,773
				Rents of houses	3,227
					9,000

Amount of the above - -	6,433	0	35
Uninclosed parish allotment, subject to tithes - -	1,532	2	6
Inclosed by the late act, part of the Chace discharged of tithes -	200	0	0
Total of acres in the parish of Enfield	8,165	:	1

The King's allotment is not specified in the above account, nor that part of THE CHACE which is set apart in lieu of the predial and vicarial tithes.

The

The rental of the parish being, according to the above statement, £ 9000 a year, a privilege of turning stock upon the common or unincloſed paſture will attach to every perſon poſſeſſing premiſes to the value of ſix pounds a year.

This privilege, however, not being reſtrained to any definite number or deſcription of cattle, there are, upon an average, not leſs than ſixteen hundred and fourteen head of cattle branded and turned on in every year, by which the common is ſo deſtructively over-charged, that the end, which the privilege was originally deſigned to attain, is in a great meaſure loſt: Theſe diſadvantages, which the inclination in each individual to monopolize the whole occaſions, are conſiderably increaſed by the fraudulent uſe which the more indigent houſe holders make of the privilege in turning on the cattle of ſtrangers, to agiſt at a low price.

To ſecure a certain profit, and to avoid the diſadvantages which the avarice of each occaſions to the whole, the following plan of ſtint might be adopted.

Every cottager to be allowed the paſturage of one cow and calf; or two heifers; or one horſe; or one mare and colt.

The occupiers of land and houſes to be allowed one cattle-gate, or beaſt-gate, for every £ 6 a year which they reſpectively rent, reckoning one horſe or mare equal to two beaſts.

The quantity of ſtock which would probably be turned on, even according to theſe reſtraints, would be a ſurcharge of the common, as two-thirds of it is wood-land. It might, however, ſerve as a ſtandard by which the ſtint might ultimately be regulated, and the benefits of the common preſerved.

The number of houſes in the pariſh of Enfield, including cottages, amounts to 920, and the number of inhabitants to more than 5,520.

Of the above number the poor, upon an average, are ſupported at the expence of 1,380 *per annum* (or thereabouts) by the pariſh.

	£.	s.	d.
Workhouſe - -	780	0	0
Out-penſioners -	600	0	0
	£1,380	0	0

ENFIELD CHACE, though it is now near ſeventeen years ſince it was incloſed, has not profited ſo much by management or exertion, as might have been expected.

The original purchaſers of the crown-leaſes were ignorant both of experimental and of practical agriculture, being, in general, gentlemen retiring from trade into the country, and who, from the former habits of their lives, were ignorant of that regular proceſs of huſbandry which new ſoil requires to bring it into a ſtate of profitable cultivation.

The ground of THE CHACE was covered with trees; and although the oak found a ready ſale, the beech did not repay the woodman's labour. The grubbing and ſtocking up of the roots was a ſtill farther impediment; and the induſtry of theſe inexperienced farmers was alarmed and checked by the conſiderable advance of money which was immediately required to clear the ground. Partial and penurious experiments made upon a raw and crude ſoil, that had been for ages ſhut up from the rays of the ſun by the thickneſs of the ſurrounding foliage, were not likely to be crowned with ſucceſs. It will not excite wonder, therefore, that the new ſoil ſullenly and reluctantly yielded to the adventurers from the metropolis, the ſeed they ſowed. The wood, however, at length encreaſed in price, and, by the monies it produced, opened a way to the farther improvement of the ſoil. The half-yard wood, which was originally given as a recompence for clearing the ground, yielded the owner 7*s.* a ſtack; the ſpikes £1. 4*s*; the 200 bavins,

bavins, when drawn to town, from 16*s.* to £1. 4*s. per* 100; and the ſpray made up into what they call "pimps," ſeveral ſhillings into pocket.

The account between the maſter and the labourer now ſtands thus—

	Labourer.		Maſter's Expences and Profit.
	s.	*d.*	*s.*
One ſtack half-yard wood, 14 feet long, 3 feet in height, 3 in breadth . .	4	0	16
Ditto yard wood, ditto .	2	0	16
Spokes *per* 100 . .	1	6	6
Bavins *per* 100 . .	2	0	8
Roots, colliers, ware *per* ſtack, the ſame meaſure as the half-yard wood . . .	8	0	12
Ditto rough roots . .	7	0	11
Pimps *per* 100 . .	1	6	6
	£1	6	0	£3	15	0

The riſe in the value of the above articles evinced, that though the ground refuſed to repay the toils of huſbandry in the produce of grain, it would, at leaſt for a certain time, produce, by the value of its wood, ſufficient to anſwer the call of The Crown for rent.

The ground, therefore, though rapidly cleared of its wood, lay, for the moſt part, in an uncultivated ſtate for many years; for the real intrinſic nature of this ſoil never having been properly tried, remained entirely unknown.

Time, however, has lately diſcovered it to be of a ſtrong clay marl, containing a great proportion of calcareous earth, effervеſcing with acids, and equal, if not ſuperior,

in its quality and effects to moſt of the marls in this country.

A circumſtance of ſo intereſting a nature, not only caught the eye of ſpeculation, but the more uſeful one of the practical farmer. The gravelly jejune ſoil, of which THE CHACE was originally ſuppoſed to conſiſt, no longer impoſed an inſuperable obſtacle to improvement; the marl ſoon produced its expected effect; and the rapid progreſs which, within theſe four or five years, has been made in the cultivation of THE CHACE is ſurprizing.

DRAINING ſeems indiſpenſably neceſſary to the ſoils of which THE CHACE conſiſts: without it the farmer ſees the ſtrength of his manure exhauſted, his crop cankered by an almoſt putrid, ſtagnant, ſubterraneous water, which, after every ſhower, ſprings from the ground at the diſtance of from one to ſix or eight poles. Theſe waters are interſected alternately with clay and gravel; the clay, in many places, forming a complete baſon, or barrier round the looſe gravel, ſo that the water, readily penetrating the porous ſoil, is completely pent up in this natural reſervoir. This remark, however, is only applied to the high grounds.

To remedy the above inconveniences, the common ſhoulder-draining ſpade and ſcoop, have been uſed with great ſucceſs. A furrow is drawn with the plough, and cleared by a common ſpade; then the draining inſtrument is introduced to the depth of eighteen inches from the ſurface; and, after the looſe mould is ſcooped out, black-thorn buſhes, &c. are carefully laid along the bottom, covered with ſtrong wheat-ſtraw, and the whole cloſed in.

As the lands here lie chiefly upon a declivity, care ſhould be taken, that the drains have an eaſy, gentle deſcent, for, if they have too quick a fall, they are apt to burſt, or to excavate; and, having loſt their protection below, the leaſt preſſure from above will deſtroy the drain.

The prices of draining are as follow:

	£.	s.	d.
5 Gunters-chains, or 20 pole 18 inches deep each drain - - - -	0	3	0
Double or leading drains 2 feet deep, *per* ſcore - - - - -	0	5	0
Bur to each ſcore - - - - -	0	0	2

Labourers to find tools, and to keep them in repair.

The double drains ought always to be uſed on the gravelly ground, as a drain ſhallower than two feet has but little effect. The uſual diſtance at which the drains are made, is in general a pole, or rather leſs, from each other.

The eighteen-inch drains have, in ſtrong land, been found by experience to produce a more immediate effect than deeper ones; for the clay, from its coheſion, prevents the water from filtrating quickly through its parts, and protects the drains below.

A gentleman, ſome years ago, informed Mr. James of Enfield, from whom I have received much of my information on this ſubject, that he had made ſome brick ſhores, full three feet in depth, to draw the water from a part of his lawn; but not anſwering the purpoſe, Mr. James adviſed him to try the experiment of the eighteen-inch buſh drains; and, by this means, he completely removed the nuiſance from his lawn.

Filling the drains with ſtones is by no means uncommon; but this mode of draining is ſaid not to anſwer; and, excluſive of the additional expence, it certainly is a mode of draining in every reſpect inferior to that of filling the drains with bruſhwood, &c. This, however, may ariſe from the difficulty there is of procuring ſtones of a proper ſize upon THE CHACE; but, perhaps, the marl-pits may

may in time, in ſome meaſure, ſupply flints ſuitable to the purpoſe.

Mr. James, of Enfield, filled drains with ſmall ſtones or gravel; but in leſs than four years the effect was gone: this he imputed to the incruſtration which naturally ariſes from the quality of the water, and the adventitious, and ever-accumulating, particles of earth, carried down by the current, and detained by too near an approach to contact with the ſuperficies of the ſmall pebbles, or rather gravel, which formed the drain.

This idea ſeems to be confirmed by the ſtrong inſtances of petrifaction which the ſoil of the chace affords, for it is a common thing to plow up a maſs in that ſtate, incloſing a multiplicity of gravel and flint ſtones, wholly and firmly incorporated.

If, however, ſtones of a ſufficient ſize were to be had, they would perhaps effectually anſwer the purpoſe, and have an advantage over the buſh-drains in preventing the moles from running into the drains; a circumſtance by which the buſh-drains are frequently and materially injured.

The manner of forming theſe drains is by filling the trench up to the ſhoulders with ſtones, and then covering them with wheat-ſtraw, or furze; but furze ſhould never be uſed except when wheat-ſtraw is not to be procured, for the ſpines of the furze are of a very periſhable nature, and generally decay before the drains are ſettled.

This method of draining, however, would have very little effect in looſe crumbly ſoils where the cauſe ariſes from ſprings, and not from the retention of water by an under ſtratum of clay; in the former caſe, recourſe muſt be had to the expenſive, yet effectual means of drains made with large ſtones or bricks.

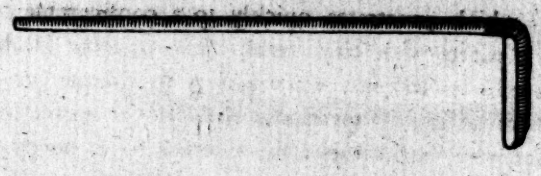
It is a common, but bad practice, to adopt a partial exerciſe of this neceſſary branch of agriculture, and to apply the

the remedy to thoſe parts only of a field, which appear to be the wetteſt, without paying a due attention to the origin of the diſeaſe. Porous ſoils, which, for the moſt part, lie upon the ridge of the hills, greedily imbibe the water, which penetrates quickly to a conſiderable depth, until it meets with clay, marl, rock, or ſome ſubſtance, to impede its deſcent, when taking an oblique, or horizontal direction, it appears at the foot, or in the middle of a declivity, and cauſes a ſpew, a ſquall, or boggy piece of ground; and, therefore, when the wet, however local it may appear, ariſes from this cauſe, the field ſhould be equally drained throughout.

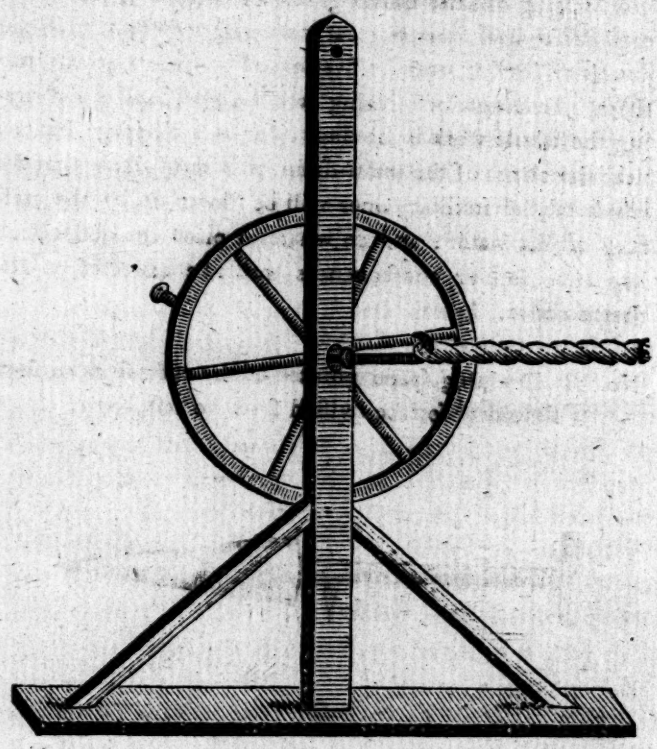
In ſetting out the drains great care ſhould be taken that each drain ſhall ſeparately carry its own water; for, if the double or leading ones be overloaded by feeders drawn into them, the danger of injuring part, and perhaps of deſtroying the whole work is obvious; for if a ſtoppage happen near the outlet of the main-drain, it is moſt likely that the whole of the auxiliary ones will be blown up by the preſſure of the water: and in whatever place the obſtruction happens, ſimilar conſequences muſt be expected to the drains above.

No. 1. Draining ſpade pointed at the end, ſo as to form ſhoulders for the twiſted ſtraw to reſt upon.

No. 2. The ſcoop.



No. 3. Engine to twiſt ſtraw.



Heath,

Heath, if it can be procured, makes the moſt durable drains where the ſoil is a ſtiff clay; but wheat ſtraw alone, without other materials, will ſucceed, provided the diſtances between the drains be not more than four or five yards. Wheat-ſtraw, twiſted to the thickneſs of a man's leg, has been lately introduced as an eaſy and cheap way of ſupplying the want of other materials; and this I have no doubt will anſwer every purpoſe where the wetneſs of the ground ariſes from the various ſtrata of different ſoils, interſecting each other in ſuch directions as to prevent the water from readily finding its way through the ſtiff clay, and not from perpetual ſprings. Drains made in the laſt-mentioned way will ſucceed beſt on ſtrong adheſive ſoils; for if applied to thoſe of a light crumbly nature, their effect will be but of ſhort duration; and, after the ſtraw decays, the leaſt external preſſure will render them totally uſeleſs, whereas, if the twiſted ſtraw be uſed on the ſtiff land, a natural channel will be found upon the rotting of the ſtraw beyond the power of any common weight or preſſure to damage.

PARING AND BURNING has been practiſed to ſome extent on *Enfield Chace*.

One of the greateſt benefits ariſing from this manner of preparing the ground, is the deſtruction of the various ſeeds and roots of plants which lie concealed in the earth; for it is certain that the perennial ſeeds may, in certain ſituations, lie long without vegetation. The ground, it is true, is by this kind of ordeal effectually purified; but much of the vegetative quality may be loſt by evaporation, ſublimation, concentration, or the various chemical changes which take place during the operation; the oleagenous quality, which a very ſenſible author calls emphatically "the food of plants," is expelled; and if it be true that the earth is a menſtruum,

barely aſſimilating or preparing the vegetable nutriment, it may very obviouſly be inferred, that the above operation robs the ground of a great part of the pabulum with which it is impregnated. Experience, however, is upon this as it is perhaps upon all other points of agriculture, the beſt teſt of truth; and it is certain, that very productive crops have been obtained by this kind of huſbandry.

Mr. James, whoſe name I have already had occaſion to mention in this report, admits, that lands uncultivated, or in their wild and original ſtate, particularly foreſts, ſuch as THE CHACE was before its incloſure, will gradually, by adventitious circumſtances, ſuch as the fall of leaves, the decay of the veſture, imperceptible fermentation, and the nutritious matter which the ſoil imbibes from the air, acquire a complete envegetic power, according to the reſpective properties, which the reſpective lands poſſeſs, of acting upon ſuch of the vegetable kingdom as are conſentaneous to them; that the breaſt-plow, affecting barely the turf or ſward, leaves a great part of the vegetable matter behind, which being plowed, and rendered more pulverized, by means of the aſhes being ſpread upon it, the roots of the plants have more room to expand, and the nutritious particles are diſpoſed to adminiſter their whole ſupport to the crop; and that the whole power of the ſoil being by theſe means exerted to one end, a good crop may once, or perhaps twice, be obtained by this mode of agriculture: but he contends, that it is by the ſacrifice of a number of future good crops, which might be procured by a different proceſs.

There are certainly arguments for and againſt this practice, and it is in general admitted, that a conſiderable portion of the pabulum or food of plants, imbibed from the atmoſphere, is exhaled by the act of burning. But it may naturally

naturally be ſuppoſed, that the aſhes remaining after calcination, ſpeedily attract or imbibe from the atmoſphere, as much pabulum as they loſt in the act of burning.

The Rev. Mr. Cooke, in the month of April 1792, determined, I underſtand, to make a courſe of experiments on a farm, which he held in the weſt riding of Yorkſhire, by paring and burning the ſward, all over the ſurface, in the ſtate in which it was left by the ſpade. The land was intended to have been ploughed immediately after it was burned; but this was deferred, by other buſineſs of the farm, for above four weeks; when, to his aſtoniſhment, he diſcovered better than half a plant of ſpontaneous graſs where nothing but heath and ling had grown before. Agreeably ſurprized by this unlooked-for circumſtance, he ſuffered it to remain in the ſtate it was; and the graſs not only thickened very faſt, and grew quite green; but being the ſpontaneous produce of the earth, and not ariſing from ſeed that had been ſown, continued permanent.

The ſpontaneous production of this luxuriant graſs he accounts for by the parings being burned all over the ſurface inſtead of in heaps, and never ſuffering it to burſt into flames ſufficient to exhale the pabulum exiſting on the ſoil.

The land on which this experiment was tried is a black peat earth, the former produce of it heath and ling. The expence of paring and burning he calculates at 16*s.* an acre; and the preſent appearance of the land, he ſays, affords a reaſonable expectation, of its being hereafter worth at leaſt 16*s.* an acre, *per annum*.

The idea which Mr. Cooke's experiment produced has been carried into practice on Enfield chace. Inſtead of burning the ſurface, the paring is placed in large heaps, and permitted to remain till it is ſufficiently rotted, ſo as

to

to be uſed by itſelf, or with lime, dung, &c. as a compoſt in amelioration of the ground.

Where the ſtaple is a deep loam or clay, the immediate injury done by the fire is not eaſily noticed, for the aſhes, though robbed of their nutritious qualities accelerate the pulverization, and make the land work, which, on freſh ground, will for the moſt part inſure a crop. New-broken-up ground no doubt is highly impregnated with the pabulum of plants, and requires but the plough and tilth to call forth its ſtrength. This cleanſing and working the ground, if ſucceſsful when applied to old incloſures, will operate more forcibly upon new-incloſed commons and waſtes, where centuries have conſpired to give a luxuriency and richneſs to the ſuperficies; and, it ſeems certain, that an increaſed labour of the plough will render leſs manure neceſſary, but that an increaſe of the latter will by no means leſſen the exerciſe of the former.

Breaſt-ploughing, however, eſpecially on gravelly ground, is accounted improper, becauſe of the ſhallow ſtaples; and indeed the richneſs and ſterility of the ſoil may well be compared to human affluence and poverty, the firſt bears up againſt repeated ſhocks of untoward fortune before it falls, the laſt ſinks at its firſt approach.

The expences of paring and burning are from £1. 9s. to £1. 11s. 6d. an acre, including the ſpreading of the aſhes.

The labourers to find and repair the tools at their own expence.

The expences of carting clay or marl.

	£.	s.	d.
A ſcore or 20 cart-loads of clay or marl, and ſpreading ditto . . .	0	4	0.

Four

	£.	s.	d.
Four horſes and a man, carting 40 loads *per* day (wear and tear) . .	0	12	0
80 Cart-loads are generally allowed *per* acre.			
Total amount of cartage, &c. *per* acre .	2	0	0

The expences of paring the ground, and carting off the ſurface into heaps.

Per Acre from 15*s.* to 20*s.* .	Paring.
Per Acre . . .	Carting.

It is to be remarked, that a difference in the prices will ariſe from the ſtate and quality of the ground; a ſtony ſurface works ſlowly off, and moreover impedes, by often blunting, the ſpade. In new incloſures the ſtubbs and concealed roots of trees, greatly retard the parers progreſs; ſo that no general rule for charges of this nature can be made.

It has been a common practice on THE CHACE, to break up the ground and ſow it with white or black oats, but ſeldom to any advantage. The thick, tufted, coarſe, implicated graſs, being turned in, carries moſt of the neceſſary moiſture from the ſeed, and proves a harbour for the grub, which is imagined, but with what foundation I am at a loſs to tell, very prejudicial to the crops in their ſeminal ſtages; add to this the only chance of the ſeeds effectually vegetating, is between the furrows where a ſcanty portion of earth is brought together by the harrows. Were it poſſible to make narrow furrows, the proſpect of a return would be greater; but this would be very difficult, if not impracticable, in moſt places, as a weight of earth is re-

quired to keep them down, and to give the harrows an opportunity of operating without tearing up the work.

The comparative advantages of paring and carting off the ſurface, and of that of paring and burning, may be collected from the following eſtimate of the expences of each, brought into one point of view; and the relative profits and expences, for a ſucceſſion of years, mutually balanced the one againſt the other.

Produce of unpared for two years.

	£.	s.	d.
1ſt. year, oats *per* acre, breaking up	1	2	0
Seed oats	0	10	6
Expences of ſowing and harrowing	0	2	0
Accidental expences, crow-keeping, gathering roots after plough, &c.	0	1	0
Rolling			
Cutting oats	0	2	0
Gathering ditto			
Carting ditto			
Thraſhing 3 quarters	0	3	0
Binding-ſtraw	0	1	0

Pared ditto *per* acre.

	£	s.	d.
Paring	0	15	0
Carting ditto			
Plowing ditto 4 teams	2	8	0
Stocking after plough	0	6	6
Harrowing ditto	0	4	0
Two load night-ſoil, back carriage	1	0	0
Seed-wheat at 30*s.* a load, 2 Bl. ½	0	15	0
Spreading night-ſoil a heap, 5*d.* a ſcore	0	1	0
Crow-keeping, water-furrowing, and gathering roots	0	1	0

Produce of oats 3 qrs. at £1. 1*s.*	3	3	0
Straw, a load and ½ at 15*s.*	1	2	6
	4	5	6

Expences deducted.

Nett profits, excluſive of rent, &c.

UNPARED GROUND.

	£.	s.	d.
Balance brought over			
2d year fallow.			

PARED GROUND.

	£.	s.	d.
Expences brought forward			
2d. year, reaping wheat	0	10	0
Carting ditto			
Threſhing at 20*d.* a load	0	8	4
Binding ſtraw, 2 loads	0	1	6

Many

Many gentlemen are very ſanguine in their expectations of the ſucceſs of the experiment of paring only, but hope cannot be rationally founded on trials made upon a contracted ſcale, or on large and liberal experiments, until time and gradual experience have confirmed their effects. For, it is well known, that new-incloſed commons, uncovered with wood, and which have immemorially been paſtured upon, eſpecially where they incline to a ſandy loam, are the moſt productive when firſt plowed up.

Marle is one of the moſt valuable manures upon THE CHACE, where it is found in ſome abundance, and is in very general uſe. The proportion of calcareous earth it contains is conſiderable, but differs almoſt in every pit, and frequently in the ſame pit. Some of it, when burnt, moulders and falls into lime; whilſt the contiguous, or adjoining part, bears the kiln, and may be made into brick, but of ſo incomplete a kind, that in general it ſcales and falls to pieces when expoſed to the air. The proportion of its component parts may be eaſily known by the application of vinegar, or the diluted acid of ſea-ſalt. This kind of earth differs in colour as the quantity of clay, ſand, or calcareous earth, happens to predominate. It is ſomewhat ſingular, that the ſtrata or veins of this body are, for the moſt part, diſcovered at or near the ſummit of the high grounds, from two to four, or five feet below the ſurface. The ſtratum, immediately above this body, is of a bright coloured browniſh clay, not effervеſcing with acids, and containing little or none of the calcareous earth; the acid having no action upon pure clay. The ſtratum below this body, is moſt generally of a ſtrong ſaponaceous blue clay, partaking nothing of the marly nature—the pits are from two to fourteen feet deep. The ſhallow veins ſeem to be ſo many ramifications of marl, ſhooting from a body of ſome magnitude of the ſame nature and not far diſtant. The ſhallow ſtrata, it is ſaid, run a great way be-

fore they connect themſelves with the main body. Many curious petrefactions of ſhells and foſſils, have, from time to time, been found in theſe pits at the depth of ſeven or eight feet from the ſurface.

By the following account may be ſeen the quantities of marl generally uſed in manuring an acre of corn land, as alſo the expences.

Land in tillage.

To the acre 80 loads.	£
Four men filling carts at the rate of 40 loads a day, at 4s. a ſcore, and ſpreading ditto.	
One man and four horſes a day.	

So that the expences of manuring one acre will amount to £2. 12s. or thereabouts, provided the marl be upon the ſpot, but will vary according to the diſtance of the cartage. The effect of this manure upon new-incloſed grounds is very great. A piece of land, of about eight acres, in the poſſeſſion of Mr. James, upon being drained and marled, produced the following quantities in ſucceſſion *per* acre.

1ſt. Crop.	Oats on a good tilth, laid down with clover - -	5 quarters.
2d. Crop.	Clover, firſt cutting -	2 loads and a half.
	Second ditto - -	1 load.
3d. Crop.	Wheat upon clover -	32½ buſhels Winchester meaſure.
	Straw - -	3 loads.
4th. Crop.	Wheat broad caſt -	20 buſhels Winchester meaſure.
	Straw - -	1 load and a half.

A ſeven-

A ſeven-acre field, after a crop of winter-tares, which were cut occaſionally in the ſpring, was tilthed, and laid up in ridges over the winter; in the following ſpring it was harrowed down, and eighty load an acre of marl carted upon it; this was cropped, in the uſual ſeaſon, with barley and clover, and a hand-dreſſing of night ſoil thinly ſown upon the land at the time the ſeeds were harrowed in. It produced ſix quarters of barley an acre the firſt year, with a proportionable quantity of ſtraw; it produced two loads of clover on the firſt crop of the ſecond year, and an additional load on a ſecond crop; the third year it produced twenty-five buſhels of wheat, and two loads of ſtraw.

South Mims incloſure is alſo part of *Enfield Chace*, and conſiſts of nearly 1000 acres. In its open ſtate it was ſuppoſed not to have yielded the pariſh at large more than two ſhillings an acre *per annum*; but ſince its incloſure it is worth on an average fifteen ſhillings an acre.

It is at preſent in tillage; but in a few years it may be converted to graſs, which will give it an increaſed value of at leaſt five ſhillings an acre.

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11. HAY-MAKING.

Hay-making in Middleſex is carried on by a proceſs peculiar to the county, and which, if the weather be favorable, has, by a long courſe of practice and experience, been attended with almoſt invariable ſucceſs. To ſtate this proceſs clearly to the Board, I ſhall particularly deſcribe the operations of each day, from the firſt employment of the ſcythe, until the hay is ſtacked in the yard, or field.

On THE FIRST DAY, all the graſs mowed before nine o'clock in the morning is tedded, broke as much as poſſible, and well turned. This is performed before twelve o'clock, and, if hands are plenty, it will be of great advantage to turn it a ſecond time. It is then raked into wind-rows; and afterwards made into ſmall cocks.

The buſineſs of THE SECOND DAY is, to ted all the graſs which was mowed the preceding day, after nine o'clock, and to ted, and treat as above, all that was mowed on this day before nine o'clock. But before the graſs of this day's work is turned, the ſmall cocks of the preceding day, ſhould be well ſhaken out into ſtraddles, or ſeparate plats, of five or ſix yards ſquare. If the crop is ſo thin as to leave the ſpaces between the plats, or ſtraddles, pretty large, the ſpaces muſt be raked clean. The next buſineſs is to turn the plats or ſtraddles, then to turn the graſs of the ſecond day's mowing, as before directed. This ſhould always be done, if there are hands ſufficient, before one o'clock, that the people may, as the cuſtom is, take one hour for dinner, whilſt all the graſs mowed is drying. After dinner the ſtraddles are raked into double wind-rows; the graſs into ſingle wind-rows; and the hay cocked into middling ſized-cocks, called baſtard cocks: The graſs is then cocked as before on the preceding day.

On THE THIRD DAY the graſs mowed on the preceding day, and on the morning of this day, is to be managed as before directed. The graſs made the preceding day, and now in graſs-cocks, is to be managed in the ſame manner as on the firſt and ſecond days. The hay now in baſtard cocks, is ſpread again into ſtraddles, and the whole is turned before the people go to dinner, that is, the hay, though laſt ſpread, is firſt turned, next that which was in graſs-cocks, and then the graſs. If the weather ſhould have been ſunny, and fine, the hay that was laſt made in baſtard cocks, will on the afternoon of the third day be fit to be carried; but if the weather ſhould have

been cool and cloudy, no part of it probably will be fit to carry; and, in that caſe, the firſt thing done after dinner is to rake the ſecond day's hay into double wind-rows; the graſs into ſingle wind-rows; to make the firſt day's hay into cocks with a fork, putting only one cock in a ſtraddle; to rake the ground clean; and put the rakings on the top of each cock. The hay raked into double wind-rows is now put into baſtard cocks; and the graſs which is in ſingle wind-rows is made into cocks as before. Provided there be no rain, even though the weather ſhould have been cloudy, the hay now in great cocks ought to be carried; the hay in baſtard cocks put into great cocks; the graſs-cocks made into baſtard cocks; and that tedded this morning into graſs-cocks.

In the courſe of hay-making the graſs cannot be too much protected from the night dews or rain by cocking. Care alſo ſhould be taken to proportion the number of hay-makers to the mowers, ſo that there ſhould be no more hay or graſs in hand at one time than can be managed according to the above direction.

The hay thus made becomes the object of THE FOURTH DAY's conſideration in order to get it into ſtacks. The hay-farmer pays great attention to have the ſtack well tucked and thatched, and I may venture to aſſert, that, from what I have ſeen in other counties, there are no hay-ſtacks, when finiſhed, that are ſo well ſecured, and nicely formed, as thoſe in Middleſex.

In the neighbourhood of Harrow, Hendon, and Finchley, there are many hay-barns capable of holding from 50 to 100 loads of hay. They are found very convenient in a catching time in hay-making, and alſo at other times, when the weather will not admit the hay to be cut and truſſed out of doors.

12. PRICE OF HAY AND STRAW.

MEADOW hay is ſold in the county of Middleſex by the load of thirty-ſix truſſes, the truſſes to weigh 60 lb. weight from June to Auguſt, and 56 lb. weight from Auguſt to June.

The meadow hay of this county is generally ſold at the different markets in London and Weſtminſter; and a regular book is kept by the clerk of each market, for the inſpection of the public, mentioning the names of the ſellers and buyers, and the price of each load, which differs in proportion to the quality.

This kind of hay is principally bought for feeding of ſaddle and coach horſes.

Rye, graſs, and clover, muſt alſo be of the ſame weight, and the load contain the ſame number of truſſes. This ſpecies of hay is generally bought for draft-horſes.

Clover hay muſt alſo be of the ſame weight and number. It is in general bought for the brewers and carmen's horſes; not only for the rack, but for cutting into chaff; and the firſt in quality of this kind of hay generally yields a greater price than the beſt meadow hay.

The price of the different ſorts of hay, as above deſcribed, for theſe laſt ſix months, appears to have been from £3. 10*s.* to £5. 5*s.* *per* load, 18 cwt. to the load.

The ſtraw from different kinds of grain brought to the London markets is ſold by the load, which conſiſts of thirty-ſix truſſes, at 36 lb. a truſs. The wheat ſtraw is, in general, uſed for litter in the ſtables; rye ſtraw is uſed by brickmakers, collar-makers, and for packing; barley ſtraw for packing and gardeners; and oat ſtraw alſo for packing.

There is the ſame regulation at the different markets with reſpect to ſtraw as there is in reſpect to hay; and the prices of each ſort for ſome time paſt has been from 27*s.* to 30*s.* a load.

13. HORSES.

Few horſes of any excellency are bred in the county of Middleſex. The farmers in general ſupply themſelves with their cart-horſes, which are compact and boney, at the different fairs in the neighbouring counties, and at the repoſitories and ſtables of the ſeveral dealers in and around the metropolis. Many of the horſes uſed in the buſineſs of huſbandry in this county, as well as thoſe uſed by the brewers and carmen in London, are bred in Leiceſterſhire and the adjoining counties. They are generally bought by dealers at two and three years old, and ſold by them to the farmers, particularly in Wiltſhire, Hampſhire, and Berkſhire, who work them gently the firſt year, and keep them on until they are about five years old, when they ſell them to the London dealers (who are always looking out for horſes for the brewers and carmen) at very high prices, being then of an age fit to ſtand their conſtant work. The draught-horſes in general, in the poſſeſſion of the brewers and carmen, are, as to ſtrength and figure, ſcarcely to be equalled. The brewer's and carmen's horſes are fed with grains, clover, chaff, and beans; racked with rye-graſs, and clover, and broad clover hay of the beſt quality; and in ſummer it is not uncommon to feed them with green tares and clover. Many of the ſaddle and coach horſes are bred in Yorkſhire, and brought up from thence and from other counties by the dealers. Theſe horſes are fed with meadow hay only.

14. SHEEP.

THE county of Middleiex is not famous for the breed of ſheep. Hounſlow Heath, and its adjoining paſtures, are the only places where flocks of ſheep are kept, and this ſeems more for the ſake of folding their lands than from the hope of ſending a ſuperior kind of mutton to market.

The farmers buy them at the fairs at Burford, Wilton, Weyhill, and other fairs in Wiltſhire and Hampſhire. The flocks differ in their individual numbers in proportion to the right of common which the reſpective proprietors poſſeſs.

The ſheep in the pariſh of Harmondſworth amount, I believe, to nearly 2000, and from the beſt accounts I could collect about 6000 are fed on Hounſlow Heath. The ſheep are generally ſold off between fair and fair; ſome few however are fatted. The hay farmers alſo, particularly in the neighbourhood of Hendon and Barnet, devote their after-graſs to the agiſtment of ſheep and other cattle, which they take in at ſo much a ſcore or head.

The experiments with Spaniſh ſheep which have taken place in Middleſex merit a particular detail in this report.

In the ſummer of 1785 Sir Joſeph Banks procured from France a ram and an ewe of the true *Merino* breed, which he kept at Spring Grove in this county. The flock whence they were ſelected had at that time been kept in the province of Burgundy for eight years, without any ram from Spain being brought to it.

In the year 1787, after having clipped this ram and ewe twice, Sir Joſeph delivered the four fleeces to Mr. Humphries, an intelligent manufacturer at Chippenham, who made

made from them cloth ſufficient for a ſuit of cloaths; and this cloth was judged by the trade to be as good as ſuperfine broad cloth uſually is. In the year 1789 a compariſon was made by Mr. Bell, a woolſtapler in Bermondſey-ſtreet, between ſixteen South Down ewe fleeces, and an equal number of teg fleeces, their progeny; and he reported that the ſixteen Southdown ewe fleeces weighed 30½ lbs. and when ſorted were worth to the manufacturer £2. 5s. 4½d. and that the ſixteen teg fleeces weighed 42¾ lb. and were worth to the manufacturer, £3. 11s.

Mr. Bell, however, according to the cuſtom of his trade, broke or ſtapled this wool which is not to make any aſſortment for a higher value than twenty-one pence half-penny a pound; but he obſerved, in breaking the half Spaniſh fleeces, that a conſiderable quantity of wool of higher value was put into that aſſortment. In the year 1790 ſixteen fleeces of South Down ſheep, mixed partly half, and partly three-quarters, with Spaniſh, were put into Mr. Bell's hands, and he was deſired to ſort them, as is done in Herefordſhire, where the deareſt claſs of wool, called "picklock," is eſtimated at thirty-two pence a pound, which he did, and reported as follows: "ſixteen South Down and Spaniſh fleeces weighed "47 lb. were worth to the manufacturer, £4. 12s. 10d."

In the year 1792 a ſimilar compariſon was made by Meſſ. Buxton, the preſent poſſeſſors of the woolſtapling buſineſs in Bermondſey-ſtreet, late Bell, between twenty fleeces of Nottinghamſhire Foreſt ewes, and the ſame number of their progeny, by a Spaniſh ram belonging to Sir Joſeph Banks.

They reported that the wool of the twenty original ewes weighed 51 lb. and were worth to the manufacturer, £3. 10s. 10½d. that the wool of the 20½. bred Spaniſh weighed 83 lb. and was worth to the manufacturer, £6. 7s. 11¾.

In the autumn of the year 1793, Sir Joſeph, having made a variety of experiments, all of which tended to prove that Spaniſh wool had not degenerated in fineneſs, even on his paſture at Spring grove, though particularly unfit for ſheep, determined to part with his wool, which had been kept for the purpoſe of compariſon from the year 1788; and accordingly he ſent the whole collection to Meſſ. Buxton, not expecting to hear any more concerning it, except by receiving a fair price, which he was certain, from the liberality he had obſerved in the dealings of thoſe gentlemen, would, in due time, be remitted to him: he was, however, agreeably ſurprized, on the 11th of January, 1794, by the receipt of a note, of which the following is a copy.

"Meſſrs Buxton preſent their reſpectful compliments to Sir "Joſeph Banks, and beg his acceptance of a piece of cloth, "produced from three grey Spaniſh fleeces, weighing to- "gether 8lb. and received by them from Sir Joſeph Banks.

"Meſſrs Buxton are informed from Mr. Wanſey (the "gentleman from whom they received the cloth in its ma- "nufactured ſtate) that it is an excellent piece of cloth; "but being made wholly of undyed wool, of its natural "colour, the manufacturer is of opinion it will fade in the "wear.

"Bermondſey-ſtreet,
"Jan. 11, 1794."

The cloth appearing to Sir Joſeph very fine, he, on the 14th of January, forwarded it to Mr. Wallace, woollen draper, in Bedford-ſtreet, a gentleman, whoſe integrity of dealing he had long been accuſtomed to, with the following note.

"January 14, 1794.

"Sir Joſeph Banks preſents his compliments to Mr. "Wallace, and requeſts his opinion of the cloth which ac-

"companies

" companies this reſpecting its value *per* yard, and its de-
" gree of fineneſs compared with ſuperfine broad."

To this Mr. Wallace returned, on the 18th, the follow-ing anſwer;

" Bedford-ſtreet, January 18, 1794.

" SIR,

" I have had the favor of your note, and have examined
" the cloth you ſent for my inſpection very minutely, and
" find it in every reſpect very excellent. The wool is re-
" markably good, though I have cloth, which, in my opi-
" nion, is made of rather finer wool, though that may ad-
" mit of a doubt, as judging from the feel of the cloth de-
" pends much upon the dreſſing, and cannot be ſo correct
" as from the wool itſelf. The ſpinning is very fine, and
" upon the whole, it may, I think, be ranked with the
" beſt ſuperfine cloth manufactured in England. If I ex-
" cept a few pieces made at a very high price, and merely
" out of curioſity, I find it ſtouter than our ſuperfine cloth
" in general, and I am of opinion that ſuch cloth from the
" manufacturer is well worth 19*s.* a yard, or more. I
" return the cloth by the bearer; and have the honor to
" be,

" Your moſt obliged,

" And very faithful,

" Humble Servant,

" JOHN WALLACE."

The firſt grey lamb bred by Sir Joſeph was dropped in the year 1789, and clipped in 1790, at which time the Spaniſh breed had been five years in England, and fourteen years out of Spain. This lamb, and one more, both males, were kept for caſtration, which is known to ameli-orate the wool; but Sir Joſeph did not chuſe to obſtruct

his experiments, which were carrying on in ſeveral parts of the kingdom, by caſtrating white lambs of the pure Spaniſh blood.

The deduction from this experiment, that cloth may be made from the wool of ſheep fourteen years after the original ſtock has been imported from Spain, as fine at leaſt as that uſually manufactured from imported Spaniſh wool, appears ſelf-evident. For the arrangement of it we are indebted to the judicious diſcriminations of Mr. Wanſey. By the colour of the fleeces all ſuſpicion of Spaniſh imported wool being mixed in the cloth is done away, for no coloured Spaniſh wool is ſent out of Spain, and moreover, the fleeces being only three in number, all idea of a ſmall portion of very fine wool having been carefully ſelected from a much larger quantity of inferior quality is precluded.

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15. HOUSE LAMBS.

THE method of breeding houſe-lambs in the county of Middleſex, is as follows.

The ewes are always, without exception, of the Dorſetſhire breed, and the rams of the county of Middleſex.

The choice given by the breeders to the Middleſex rams in preference to thoſe of any other county in the kingdom, is extraordinary; but the wiſdom and utility of this preference is ſaid to be proved by long experience. The forward or early lambing ewes, are ſought for by the breeders of this county with great attention, and are generally purchaſed about Michaelmas at Weyhill fair, or other places in the Weſt county. The ſtock is preſerved by occaſionally buying the graſs-lamb ewes of the county of Surrey,

Surrey, after their lambs have been ſent to market, in the month of April or beginning of May. The ſheep, which begin to lamb about Michaelmas, lie in the open field until they have produced a flock of twenty or thirty lambs. Theſe lambs are then put into a lamb-houſe, where they are kept with great care and attention until they are fit for the butcher. The natural mother of each lamb is turned every night into the lamb-houſe to her reſpective offſpring. At ſix o'clock in the morning theſe mothers are ſeparated from their lambs, and turned into the paſtures; whence they are re-driven into the lamb-houſe about eleven or twelve o'clock at noon, and each lamb ſuckled by its mother. If a ewe give more milk than its lamb will ſuck, the ſuperabundance is given to the twins, or to any other lamb whoſe mother may not be able to furniſh it with ſufficient food. The ſhepherd muſt, in this caſe, hold the ſtranger ewe for about one hour to the reſpective lamb it is deſtined to ſuckle. The lambs are put into a coop where there is a rack, which, to prevent them from gnawing the boards, or eating each others wool, is filled with clean wheat ſtraw, and ſeveral large pieces of chalk. Clean ſtraw is then thrown over for the lambs to lie on: and, from their timid and nervous nature, it is extremely eſſential that they ſhould be kept free from every ſpecies of diſturbance; for fear, which forms a prominent feature in the character of this animal, will ſuſpend, and, if excited to a great degree, deſtroy the functions of its nature. When the breeder, as he occaſionally does, ſends a number of lambs to market, their mothers are let into the lamb-houſe immediately after the natural mothers of the remaining ſtock of lambs are turned out, and a certain number of lambs, according to the quantity of lambs and ſucklers let out of the coop. The ſhepherd muſt hold each ewe, for, otherwiſe, ſhe will not let the lamb ſuck; and, after

giving each lamb, by this means, as much milk as in the judgment of the ſhepherd is ſufficient, he reſtores it to the coop, and continues to do the ſame with the reſt until he has ſatisfied every lamb, or exhauſted the ewes of their milk: Great care, however, ſhould be taken not to defraud the twins of their ſhares of the milk. This mode of feeding is repeated every morning and afternoon.

The ewes, when the graſs begins to fail, are fed in the fields with grains in troughs, and ſecond-crop hay in racks. The ſheep ſhould be kept free from the foot rot and ſcab; and if they have any pitch mark on them when they lamb, it muſt be cut off before the lambs are taken into the houſe, otherwiſe the lambs will eat it, and thereby greatly prejudice their future growth.

A lamb houſe, to ſuckle from 160 to 180 lambs at a time, ſhould be ſeventy feet long, and eighteen feet broad, with three coops of different ſizes at each end, ſo conſtructed as to divide the lambs according to their ages.

The ſheep, when ſeparated from the lambs, ought to be ſo diſpoſed as to enable the lambs to find their mothers without trouble; and for this purpoſe they make uſe of deal hurdles, placed about the middle of the ſheephouſe.

Punctuality of time in letting the ewes in to the lambs, and keeping the lamb-houſe very cleanly littered, are very neceſſary precautions.

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16. CATTLE.

OXEN are not generally uſed for draught or for the plough in the county of Middleſex. The practice, however, ſeems to be prevailing; for, in addition to thoſe who are mentioned in the former ſurvey, as promoting, by their example, this ſpecies

ſpecies of huſbandry, I may mention the name of Mr. Jenkins, of Hanworth-park, who keeps two teams, or twelve oxen, of the Welch breed, ſhort, boney, and ſtrong. They are bought of the drovers at three years old, worked for a courſe of three years, and then either fatted for the butcher or ſold to the grazier.

Five oxen are uſed to draw a waggon on the road, one in the ſhafts, and four in pairs, with collars and holſters, or headſtalls.

At plough two pair are uſed; at dung-cart three oxen only are uſed. Some of them are ſhod ſtanding; others are thrown for this purpoſe. Mr. Allan, of Philpot-bridge, keeps two pairs; Mr. Redford, of Feltham, two pairs; the Marquis of Abercorn, of Bentley-Priory, has a team of five, which go in a waggon ſingly, with collars and head-ſtalls, and are ſhod without being thrown. Mr. Allan, of Philpot-bridge, fattens oxen, of the Worceſterſhire breed, with oil-cakes, &c. and generally gets them to ſo high a pitch of perfection as to ſell them for £40. an ox.

The cows are kept in general for ſuckling calves, and for ſupplying the neighbourhood with milk. They are generally of a mixed breed, and are bought at Kingſton, and other fairs in the neighbourhood. But the practice of ſuckling calves prevails moſtly in the weſtern part of the county.

Boiling potatoes in ſteam, for the uſe of cattle and horſes, is now adopted, in many places, on a very large ſcale, and is found to anſwer the intended purpoſe. A correſpondent of the Reverend Mr. Cooke, in Wiltſhire, declares, that laſt winter he fattened ſixty head of cattle, and a large quantity of hogs, at leaſt fifty *per cent.* cheaper than uſual, on ſteamed potatoes, with ſtraw cut into chaff, ſmall quantities of malt-duſt, and linſeed tea or jelly for the beaſts, and bean-flower for the hogs; and that his horſes, about

twenty in number, are now ſupported at hard labour by ſteamed potatoes and cut-chaff only, for half the expence of hay and corn.

Mr. Cooke has improved and ſimplified the proceſs of cutting ſtraw into chaff, and boiling potatoes in ſteam.

17. PRICE OF PROVISIONS.

BREAD, throughout the county of Middleſex, appears to be, in regard to price, the ſame as regulated by the city magiſtrates, in proportion to the price of wheat. In the vicinity of London, all kinds of butchers meat are equally as dear as in the London markets. In the more remote part of the county, and in the market towns of Uxbridge and Brentford, pork, poultry, eggs, and vegetables, as well as milk, are to be had ſomething under the London-market prices; but beef, mutton, veal, and lamb, are ſeldom to be had at a cheaper rate; and, I much queſtion, if the coarſe pieces of beef, &c. are not ſold cheaper to the poor in London, than in any part of the country.

18. ROADS.

THE roads, both public and parochial, are in general good, conſidering the flatneſs of the ſurface of many of the parochial roads, which does not admit of the advantages of draining, which is one of the principal objects to be attended

attended to. To prevent roads from wearing, and to keep the middle of them as high as can be with ſafety to carriages, is the beſt method yet known to prevent the water lying on them, and of courſe to preſerve them much longer in a ſound ſtate than when they are level.

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19. COMMON MEADOWS,

NEAR THE RIVER LEA, SUBJECT TO LAMMAS TENURE.

THERE is a large tract of excellent meadow land on the Middleſex ſide of the river Lea, belonging to the pariſhes of Enfield, Edmonton, Tottenham, &c. The canal is cut through theſe meadows, and falls into the River Lea, near Old Ford. This tract of meadows, containing about 1000 acres, is divided, as appears by the ſtakes, to the different proprietors, in allotments, from about *half* an acre, to *four or five* acres, but in general in *two and three* acres. They are laid up to be mowed every year on the 5th of April, and after the hay is cut, and taken off, are opened again for commonage on the 12th of Auguſt: and this is what is called "Lammas Tenure." Every inhabitant of the reſpective pariſhes claims and exerciſes a right of turning into theſe meadows what ſtock he pleaſes; there being no ſtint to this right of common. Every horſe, cow, or heifer, thus turned in, is marked by the pariſh brand for one penny each; and if any are found thereon unmarked, they are taken to the pound, and are not releaſed without pay-

ing a fine of eighteen pence each, if they belong to a parishioner, and if otherwise the fine is three-shillings each.

These meadows are frequently flowed both in winter and in summer, not only by the River Lea, but by the canal; but it does not appear that any attention is paid, either by keeping the ditches, or the other drains to carry off these floods, open; by which neglect the water is suffered to remain, to the great injury of the meadows. The reason assigned for this neglect, I understand, is, that the property is in small pieces, intermixed, and subject to Lammas tenure, which prevents any general system from being pursued by one, as all must join in the expences for the improvement required.

These meadows now let for about 25*s*. an acre on an average, and if inclosed, or thrown into severalty, it is supposed they would be worth at least 40*s*. an acre. At present, the hay cut off is reckoned to be about one ton an acre on an average.

20. COMMON MEADOWS,

NEAR THE RIVER THAMES.

From Fulham to Chiswick, and almost all along the margin of the River Thames, as far as Staines, are meadows, to a great extent, which are frequently flowed both by the tides and by the floods. These inundations produce great quantities of rush, and other coarse grasses, and render it extremely difficult to make the produce into hay; and, indeed, when this is accomplished in the best possible manner,

manner, it is but little worth. Moſt of theſe meadows have open ditches dug in the loweſt part of them to take off the water which remains after the tides and floods have retired; but, the ſurface being in general nearly a dead level, the water drains very ſlowly off; and in the winter ſeaſon the ſoil is ſo very tender that it will hardly bare the weight of ſtock upon it.

The greateſt improvement that could be made upon the wet meadows, neareſt to the Thames, would be to plant them with oſiers, where the lands are not ſubject to Lammas tenure.

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21. COMMON MEADOWS,

ON THE BANKS OF THE COLN.

EXTENSIVE and fertile meadows alſo adorn the banks of the River Coln, from Staines to Harefield.—Thoſe at Harefield are known by the name of "The Moor," and contain about 300 acres, which are watered by the River Coln. Parts of theſe meadows are mowed twice a year, and other parts grazed. A more ſtrict attention is paid to the keeping of the drains and ditches in theſe meadows in proper order, than in any of thoſe before mentioned, adjacent to the Rivers Lea and Thames.

22. COMMON FIELD LAND ARABLE.

THE common fields in the county of Middleſex, which are at preſent in a good courſe of huſbandry, form a large proportion as to the number of acres, when compared to the cultivated incloſures in the county.

In many of the pariſhes it has been ſuggeſted, (as in the preſent ſtate the lands are intermixed in ſmall proportions, and ſubject to commonage) that if an incloſure ſhould take place under proper regulations, and every perſon's proportion of land was thrown together, the proprietors of the land would not only benefit as to rent conſiderably, but the tenant would alſo be enabled to purſue his courſe of huſbandry without interruption, and to apply the ſoil to its right uſe, by introducing the beſt ſyſtem of agriculture.

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23. WILLOWS.

FROM Fulham to Staines the banks of the Thames are profitably employed in the cultivation of willows; of which I am happy in being able to furniſh the Board with the following ſhort, but ſatisfactory account, containing the

ſpecific names of thoſe raiſed in the neighbourhood of Brentford, the uſes to which they are applied, and the manner in which they are cultivated.

1ſt. THE SALIX VITALLINA, or *yellow willow*, is cultivated chiefly by the nurſerymen; and being of a tough, but yielding nature, is uſed for binding packages of trees and ſhrubs in the drawing ſeaſon, and for tying up the branches of wall and eſpalier trees.

2dly. THE SALIX AMYGDALINA, or *almond-leaved willow*, is a ſpecies of which there are ſeveral varieties, one of which is called by the planters "the ſmall red willow," or "binding rod," it being chiefly uſed for binding the produce of garden grounds. Another kind of this willow is at preſent known by the looſe appellation of "the new kind;" it is of large growth, and produces a great crop, is uſed both by the baſket-makers and the corn-ſieve makers, and, indeed, is fit for any work which requires a firm as well as a tough rod

3dly. THE SALIX VIMINALIS, or *oſier willow*. Of this ſpecies there are alſo ſeveral varieties, which are called among the planters by the name of "the yellow and brown oſiers," or "Coomb's oſiers." They are chiefly uſed by the baſket-makers, being very pleaſant working rods; and, as they produce a great crop, are much cultivated.

Theſe three deſcriptions comprehend the moſt uſeful varieties, and are the moſt profitable in point of crop, of any that are cultivated in this diſtrict. There is, however, a coarſe ſort of willow, known by the name of "the Spaniard;" but whether it is a diſtinct ſpecies or not I am unable to decide; it might be rendered extremely uſeful in counties where much bruſh or underwood is bound.

The mode employed in the cultivation of willows is as follows.

The

The ground is, during the winter, dug a full ſpade's depth, and left rough, to prevent the tides from running it together again before it can be planted. The planting work begins in the month of March. The planter, having procured the ſetts or plants, which are fifteen or ſixteen inches long, cut diagonally off the ſtrongeſt ſhoots of the laſt year's growth, and care being taken that they are not cut near to the top of the rods, that part being too porous to make a ſound plant, the ground is then marked out into rows two feet aſunder, and the ſetts are ſtruck in the rows eighteen inches from each other, leaving about ſeven inches of the ſett above the ground. This work is very eaſily done without uſing even a dibble or ſetting-ſtick; but when planted, care muſt be taken, by hoeing, to keep them as free from weeds as poſſible; or, if the ground be too wet for the hoe, a weeding hook may be uſed to keep them down: this is abſolutely neceſſary to enſure a good plantation. It is alſo equally neceſſary to keep the ground well drained, to prevent the tide's remaining upon it any conſiderable time, for on that alſo depends the firmneſs and good quality of the rods.

The willows are cut the firſt year with a bill-hook. The ſhoots are cut off cloſe to the ſtock, and bound up in bundles, or boults as they are called, which meaſure forty-two inches round, at ſixteen inches above the butt-ends. The ſame proceſs of weeding muſt be purſued every ſummer, while they are ſhooting up from the ſtem. The next cutting ſeaſon a portion of them is left to ſtand another year, where large ſtuff is wanted, for the ribs of large baſkets, &c.

The planting of willows is expenſive the firſt year; but, if well managed, they produce a great profit, as they improve in quantity every year. The profound ſecrecy which every willow-planter obſerves with reſpect to his individual

individual profits, renders it impoſſible to aſcertain to what amount this article is cultivated; but greatly profitable as it certainly is, there are ſtill many parts on the banks of the Thames, well ſuited to the propagation of this uſeful plant.

24. IMPLEMENTS OF HUSBANDRY.

The common wooden ſwing-plough is in the moſt general uſe in the county of Middleſex. The Hertfordſhire wheel-plough is alſo uſed by ſome farmers for ſummer fallowing.

Harrows of various weights a pair, from the draught of one to four horſes, with rollers of wood and iron of equal capacity, are made uſe of.

There are but few waggons uſed; and the carts moſtly in uſe are the ſix-inch wheeled ſhooting-carts, with iron arms of various ſizes for their axis. Theſe carts, with the addition of movable head and tail ladders, carry hay, corn, &c. and, when thus enlarged, are found more convenient in the farming buſineſs than waggons, they being leſs expenſive, and ſtanding in leſs ſpace when out of uſe.

The Rev. Mr. James Cooke, of Red Lion-ſquare, London, has greatly ſimplified and improved his patent drill-machine, as well as its attendant cultivator, &c.

In my correſpondence with this gentleman he furniſhed me with the following account of theſe implements.

"In my ſeveral excurſions ſome years paſt for the pur-
"poſe of introducing the drill-ſyſtem, which is now ſuf-
"ficiently

" ficiently underſtood by practical farmers to inſure its ſuc-
" ceſs, I found in this iſland about twenty ploughs of different
" conſtructions. It occurred to me they could not all be
" equally right, or that, if one out of the twenty was right,
" the remaining nineteen muſt be wrong. Thereupon,
" the true principle of the *common plough* became an ob-
" ject of inveſtigation, in which I was for ſome time miſ-
" lead, by endeavouring to claſs it, as others had done
" before me, with the mechanical power called *the wedge*.
" I was not long in diſcovering my error, and that it was
" not *the wedge*, but the mechanical power called *the in-*
" *clined plane*, that conſtituted the true principle of the
" common plough.

" From the imperfections which I obſerved in the work
" of common ploughs, ſome furrows being ſet too much
" on the edge, others laid quite flat (both extremes equally
" wrong) I concluded that their medium could not be far
" from being right; I therefore fixed on the angle of five
" and forty degrees for the form of the fore and hind parts
" of the plough, with a mould board uniformly twiſted,
" as beſt adapted for taking up or raiſing the furrow with
" the greateſt eaſe, and delivering it with the greateſt regu-
" larity. On this principle I had a plough conſtructed;
" which, on trial, anſwered the intended purpoſe and my
" expectations.

" Being ſatisfied with the principles of this plough, and
" that the exact form might be preſerved, I had it caſt in
" iron, with the land and furrow ſides growing together,
" which renders it not only ſtrong and durable, but un-
" alterable by workmen. It is made without wheels; but
" I prefer wheels, two before and one behind, a deal of
" friction being thereby obviated, and conſequently leſs
" draught required.

" The

"The ſtrongeſt proof of accuracy in the conſtruction of "any plough, conſiſts in every part of the mould-board "bearing an equal reſiſtance to the approaching furrow, "which is aſcertained by every part of the mould-board "receiving an equal poliſh from the friction of the furrow.

"Admitting this plough to be mechanically true, which "I truſt I am able to demonſtrate, and that it performs its "work better, and requires leſs draught than any other plough "I have hitherto met with, my hopes of living to ſee it in "general uſe are, nevertheleſs, not very ſanguine, owing "to the attachment of ploughmen in general to the ploughs "of their reſpective counties, and the true principle of "ploughs not being ſufficiently underſtood by their em-"ployers. I ſhall, nevertheleſs, perſevere in the uſe and "introduction of this plough, believing it to be the beſt, "until I can find a better.

"THE CULTIVATOR" may be conſidered as an appendage "to the drill, being applied to the drill axis when at work. "It is particularly uſeful in making clean fallows of all de-"ſcriptions at half the expence of ploughing, &c. It conſiſts "of a diagonal beam, with from three to ſeven ſhares of dif-"ferent ſizes, for various uſes, applied to two handles, by "which it is guided laterally, and may alſo be forced into "the ground to any given depth at pleaſure. It is uſed "as a ſubſtitute for ploughing and harrowing, by tearing "or lacerating the ſoil internally, without tearing a furrow. "The narrow ſhares or ſcarifiers, are, in ſome caſes, uſed "for obtaining a tilth in light ſoils without ploughing at "all, and the broad ſhears for cutting up a fleece of weeds, "and afterwards leaving them to periſh on the ſurface of "the land.

"In ſtrong compact ſoils, if land is ploughed once "before winter, or early in the ſpring, the remainder of "the buſineſs in making a clean fallow may be performed

" without repeated ploughings, better than with them, " and at half the expence. By the action of THE PLOUGH " ſome weeds are turned down and buried, others are " tranſplanted: by the action of THE CULTIVATOR, they are " all brought up to the ſurface, and left there expoſed. I " cannot here ſufficiently deſcribe the utility of this imple- " ment, particularly in obtaining an expeditious tilth, " for barley and oats after turnips, without ploughing.

" In preparing land for barley, &c. after turnips, I can- " not conſider the plough and harrow of any other uſe but " to obtain a proper tilth, or pulverization of the ſoil, all " which may be obtained by a proper and ſeaſonable uſe " of THE CULTIVATOR, in half the time, and at half the " expence, with the richeſt and cleareſt portion of the ſoil " left on the ſurface for the reception of the ſeed; inſtead, " as in the firſt inſtance, of its being turned down by the " plough, out of the reach of the fibres of plants, and a raw " or leſs fertile ſoil brought up for the reception of the ſeed.

" I never ſee common harrows at work but I am pre- " ſented with ideas of awkwardneſs, reſpecting the proceſs " and danger both to men and horſes; both which are " obviated in my practice, by applying a proper harrow to " the underſide of the coulter beam of the drill. The har- " row, in that caſe, ſupplies the place of the coulters, " and may be lifted up at pleaſure to diſcharge the accu- " mulated weeds, or forced down, ſo as to overcome the " reſiſtance of complete ſoils: and by being lifted up at " the ends of lands, it clears off the ground; and all danger, " while the horſes are turning round, is thereby done away."

The practice, recommended ſo ſtrongly by Mr. Cooke, is adopted in this county by Mr. Ruberry, of Sutton Court Farm, Chiſwick: By Mr. Winter of Acton: and Mr. Thorn of Ealing. The firſt of theſe gentlemen has experienced great advantages from it, and is ſan-

guine

guine in his expectation, that, if purſued with ſpirit, it will prove highly beneficial to the arable culture of the lands throughout the kingdom.

25. FARM HOUSES AND OFFICES.

The farm houſes, and the offices thereto belonging, are, in general, throughout the county, well conſtructed, and in good repair. Many of them are perfect models of their kind, particularly Sutton-Court Farm, in the pariſh of Chiſwick, now in the poſſeſſion of Mr. Thomas Ruberry. The farm-yards are built with a view to protect the cattle from inclemency of weather; and are advantageouſly formed for making and preſerving manure. In the arable part of the county many of them are at a great diſtance from the lands, particularly where the farm chiefly conſiſts of common fields.

In thoſe parts of the county which have been newly, or may hereafter be, incloſed, it would perhaps be good policy to erect the farm-houſes, and neceſſary out-buildings, on the moſt barren and penurious parts of the land, as they would in ſuch caſe be more likely to become an object of improvement. Where the farms are large, an out-barn, on ſome central part of the premiſes, will be greatly conducive alſo to this end.

Many of the farm-houſes, and moſt of the out-buildings in this county, are thatched; but it appears, in ſome places, that ſufficient attention is not paid to the ſtraw being very cleanly threſhed, which in thatching is a very material circumſtance, as otherwiſe the corn will ſprout after the ſtraw is laid on the roof, and ſoon let in the rain.

26. COW-KEEPERS.

THE number of cows, kept by the London cow-keepers in the county of Middlesex, amounts to nearly 7,200; and in the counties of Kent and Surrey to 1,300. I have taken great pains to ascertain these numbers with as much precision as the nature of the subject is capable of; and, having collected my information from the following places, I have great confidence in the account being accurate.

MIDDLESEX.

Tothil-Fields	}	205
Knightsbridge	}	
Edgware-Road		550
Paddington	}	3,950
Tottenham-Court Road	}	
Battle-Bridge	}	
Gray's-Inn-Lane	}	
Bagnigge-Wells	}	
Islington	}	
Hoxton		150
Ratcliff		205
Mile End		406
Limehouse		180
Poplar		70
Bethnal-Green		200
Hackney		600

Bromley

Bromley		160
Bow		100
Shoreditch	}	200
Kingsland	}	
Odd Cows		224
		7,200

KENT.

Deptford	}	681
Rotherhithe	}	
Greenland Dock	}	
New Crofs	}	
Bermondsey	}	

SURREY.

Lambeth	}	619
South Lambeth	}	
Kennington Bridge	}	
Cold Harbour	}	
Peckham	}	
Peckham Rye	}	
Newington	}	
Camberwell	}	
		1,300

The

The cows kept for the purpoſe of furniſhing the metropolis with milk, are, in general, bred in Yorkſhire, Lancaſhire, and Staffordſhire. The London dealers buy them of the country breeders when they are three years old, and in calf. The prices given for them are from eight guineas to fourteen pounds a cow. The different fairs and markets, which are held at Barnet, Iſlington, and other places around the metropolis, furniſh the London Cow-keepers with the means of keeping up their ſeveral ſtocks. Many cows likewiſe are bought in Yorkſhire in ſmall lots, from ten to twenty, by private commiſſion, and forwarded to the cow-keepers in and about London.

During the night the cows are confined in pens or ſtalls. About three o'clock in the morning each cow has a half-buſhel baſket of grains. From four o'clock to half paſt ſix, they are milked by the milk-dealers, who contract with the cow-keepers for the milk of a certain number of cows, at the price of fourteen or fifteen pence for eight quarts. When the milking is finiſhed, a buſhel-baſket of turnips is given to each cow; and very ſoon afterwards they have an allotment, in the proportion of one truſs to ten cows, of the ſofteſt meadow-hay of the firſt cut that can be procured. Theſe ſeveral feedings are generally made before eight o'clock in the morning, at which time the cows are releaſed from their ſtalls, and turned out into the cow-yard. About twelve o'clock, they are again confined to their different ſtalls, and ſerved with the ſame quantity of grains as they had in the morning. About half paſt one o'clock in the afternoon the milking commences in the manner as before deſcribed, and continues till near three, when the cows are again ſerved with the ſame quantity of turnips, and, about an hour afterwards, with the ſame diſtribution of hay as before deſcribed.

This

This mode of feeding generally continues during the turnip ſeaſon, which is from the month of October to the month of May. During the other months in the year they are fed with rowing, or ſecond-cut meadow hay and grains, and are continued to be fed and milked with the ſame regularity as above deſcribed, until they are turned out to graſs, when they continue in the field all night, and even during this ſeaſon they are frequently fed with grains, which are kept ſweet and eatable for a conſiderable length of time by being buried under ground in pits made for the purpoſe. There are about ten bulls to a ſtock of 300 cows. The calves are generally ſent to Smithfield market at a week old.

Good milkers are kept four, five, ſix, and ſometimes ſeven, years; they are fatted by an encreaſed allowance of the ſame food as is given to them while in milk, and ſold off.

27. CONSUMPTION OF MILK.

From the facts adduced in the preceding article, it appears that there are about 8,500 milch cows kept for the purpoſe of ſupplying the metropolis and its environs with milk; and that each cow will yield on an average all the year round as follows:

	£.	s.	d.
9 quarts a day from October to May, 212 days, 1908, quarts, fed on turnips, grains, hay, or rowing. The milk is ſold to the retailers at 1¼d. a quart - - -	13	18	3

10 quarts

	£.	s.	d.
10 quarts a day from May to September, 123 days, 1,230 quarts, fed on graſs, and occaſionally on grains. The milk ſold to the retailers at 1¾*d.* a quart -	8	19	4½
8 quarts a day, 30 days, 240 quarts, fed on grains and hay. The milk ſold to the retailers at 1¾*d.* a quart - -	1	15	0
365 days total 3,378 quarts each cow *per ann.*	£ 24	12	7½

8,500 cows at £ 24. 12*s.* 7½*d.* each cow *per ann.* or 28,713,000 quarts at 1¾*d.* a quart, comes to - £ 209,365 12 6

The conſumers pay 3*d.* a quart to the retailers, which, on 28,713,000 quarts, amounts to the ſum of £ 358,912. 10*s.* and makes a difference of £ 149,546. 17*s.* 6*d.* a year, in favour of the retailers.

It may, however, be neceſſary to obſerve, that from the information of a very reſpectable perſon, formerly a cow-keeper, who always attended the feeding and keeping of his own ſtock, and the meaſurement of the milk to the dealers, that eight quarts of milk a day a cow, taken upon an average the year round, and on the ſtock of the whole of the cow-keepers, is rated quite high enough.

The account, therefore, of eight quarts of milk a day, will ſtand thus, ſuppoſing the milk of every cow to be ſold to the milk-men, which is not the caſe:

Each

	£.	s.	d.
Each cow, on an average, eight quarts a day, for 365 days, 2,920 quarts, at 1¼*d.* a quart, comes to	21	5	10

8,500 cows, at £21. 5*s.* 10*d. per ann.* each cow, or 24,820,000 quarts, at 1¼*d.* a quart, comes to £180,979. 3*s.* 4*d. per ann.*

The conſumers, however, as before obſerved, pay 3*d.* a quart to the retailers, which, on 24,820,000 quarts, amounts to the ſum of £310,250. and makes a difference of £129,270. 16*s.* 8*d.* in favour of the retailers.

But, when the families leave London, the cow-keepers do not find a ready ſale for all their milk; and in this caſe they generally ſet the unſold milk for cream, of which they make freſh-butter for the London markets, and give their butter-milk to the hogs.

The ground-work of cow-yards ought to be made of lime rubbiſh, &c. as it makes a ſound bottom; prevents the cows from poaching the yard too deep; and is eaſily ſcraped and kept clean.

THE FACTS and obſervations above ſtated have been collected perſonally by myſelf, from thoſe whoſe engagements in, or connection with the buſineſs of cow-keeping enables them to judge with accuracy and diſcrimination on this ſubject; but I cannot omit this opportunity of referring to that uſeful work, entitled, "*Annals of Agriculture*," N° 120, where much information reſpecting the keeping of cows, and the conſumption of milk, both around the metropolis, and in other parts of the kingdom, is communicated to the publick by its ingenious author *Arthur Young, Eſq.*

MISCELLANEOUS OBSERVATIONS.

WHEN any of the commons about London are firſt encloſed, it will perhaps be found a difficult matter to procure plenty of manure. The effect of manure on gravelly ſoils laſts but a ſhort time, when compared to the duration of its effects on clayey, or other ſtrong ſoils; but by giving gravel ſoils frequent dreſſings, and in ſmall quantities, it enables the farmer to cover more lands, and to get it into a proper courſe of huſbandry ſooner than he otherwiſe would have been able to do.

Commons are certainly beſt encloſed, as they afford no real benefit to the poor, who live on, or near them; for, although a cow turned on the common may get her own living for three months, which is as much as ſhe will be able to do, without ſome aſſiſtance from the garden, bran, &c. the cottager, not having a bit of encloſed ground to grow hay, is ſure, if he can have it at all, to pay very dear for it to the neighbouring farmers; and ſuch cows, being obliged to be on foot all the day, and perhaps at night too, give but a very ſcanty meal when milked.

If new incloſed land is let on leaſe, the farmer ought to covenant to take good care of his fences, quickwood, &c. and ſometimes it is the beſt way for the landlord to take the charges of the poſts, rails, quick-wood, &c. for the firſt ſeven years (by which means the fences will be got up) and alſo not to allow any ſheep to be kept on the grounds for

that time. If, however, they are put on to eat off the turnips, the hedge ought to be ſecured by a net. This is neither much trouble nor expence.

When incloſures are made, no plantations ought to be placed near the roads, as they keep them wet and damp, by preventing the ſun and wind from having their due effects; and, near London, plantations cloſe, or at only a ſmall diſtance from the roads, afford a harbour for highwaymen and footpads untill they have a proper opportunity to ruſh out on their prey. This danger was formerly guarded againſt by the ſtatute of 13 Edward I. commonly called the *Statute of Wincheſter*, but it is repealed, and other proviſions enacted upon this ſubject by 13 George III. c. 78.

Roads in new-incloſures ſhould be made as ſoon as convenient, that the farmer may be able to get his manure, &c. to his land, with the greater eaſe to himſelf and his horſes.

Perhaps there will be no better fencing found for the commons in the county of Middleſex, when incloſed, than oak poſts, and fir rails, the rails not to be more than nine or ten feet long, perhaps nine is the beſt length: for poſts of oak will laſt till the quick-hedge is up. Quicks ought to be had from the nurſery-men; thoſe are beſt that have been tranſplanted twice. Where the land is thin and poor, it is a good way to ſet them (where it can be done) on the ſurface of the old turf, and then to cover the root with a ſod; the graſs ſide to the root of the quick: three ſets to a foot are plenty. If quick-ſets are bought, beware they are not thoſe drawn up by the roots, on the commons, *i. e.* wild-quicks, for they canker and never grow well. It is a cuſtom with the people who live near and on the commons, where there is an encloſure, to col-

eſt the wild-quick, cut the top off within only two or three inches of the ſtem, and ſell the roots: they ſell them at a lower price than the nurſery-men, but they never make a good fence.

Of the 3000 acres which remain to be encloſed of Enfield chace, it would be a good method, where it can be done, to ſet off the new-incloſed land, to thoſe who have old incloſures near to it, as they can beſt nurſe and attend to the various wants of the new land, during its infancy—and by not having more than 100 acres of new incloſure, may attend to it as it ought to be.

No land ought to be mowed more than once in a ſeaſon, for many reaſons, which need not be pointed out to thoſe who are converſant in huſbandry; and all land ought to be paſtured once in three years. Farmers near London, who have fat cattle to ſend to market, have great advantages; they can, if cattle are wanted, ſend them to Smithfield at a ſhort notice; and if at any time they are not ſold, they can return to their paſture and not be much the worſe for the journey. The diſtance being ſo ſmall, they may frequently ſell them to the London butchers on their own farms, and by ſo doing ſave both time and expence.

The meadow-lands near London are not only more manured, but earlier freed in the ſpring, and are of courſe fit to be mowed ſooner. This gives the hay-farmers about London, in general, the beſt part of the ſeaſon, if the ſeaſon be fine; and of courſe they get their hay well; but if wet they do not uſe the ſame endeavour to preſerve it from damage as they do in the more northern parts of England. Hay, after having been cut only three or four days, and expoſed during that time to a hot ſun, criſps without being ſufficiently dried to the ſap, and when ſtacked into large ſtacks, commonly heats, becomes mow-burnt, and frequently takes fire.

fire. Various are the methods uſed to prevent it; but I fancy none better than to put the new hay into pikes of a good large load each, and to let them ſtand for a week before they are ſtacked. If the pikes are well made, they will turn any quantity of rain that may fall: objections may be made by ſome to letting the hay ſtand in pike, but it is a very ſafe method, and much uſed in ſome parts.

The reaſon why artificial graſſes are not found in greater plenty in old meadows, is, that, if they are at the firſt ſown, the common hay graſs and white clover never fail in a few years to occupy their places; is not this a proof that they are the graſſes beſt calculated for common uſe? Artificial graſs, as the common red clover, &c. laſts for three years only. Trefoil is a moſt excellent graſs for ſheep; they eat it well green, and are very fond of the hay; but, with reſpect to graſſes, as well natural as artificial, they all have their favourite ſoils.

Manures about London are many and various, much increaſed in price of late years, but will of courſe be more ſo. Soon after the incloſing of the commons around London takes place, the new incloſure will moſt probably be able to provide its own manure in a great meaſure, and will, without doubt, pay the proprietors well for thoſe parts that will admit of the cultivation of turnips, barley, and clover, eſpecially if the turnips be eaten on the ground by ſheep.

The large cows kept by the cow-keepers near London, and known by the name of Holderneſs cattle, do not all come thence; the beſt, and thoſe which have been ſold for the moſt money, are bred in the county of Durham, and that part of Yorkſhire which is near the rivers Swale and Tees, in the North Riding. This large breed of cattle were moſt probably firſt brought from Normandy, where

where they are the common cattle of the country. The late Sir William St. Quintin took great pains to cultivate this breed: he had bulls brought from Normandy to his eſtate at Lowthorpe, and thereby much improved the breed of ſhort-horned cattle, as he not only gave the uſe of them up to his own tenants, but to the publick in general. They give a large quantity of milk, but not butter in proportion. Some of the long-horned breed of cows are moſt excellent for the uſe of the dairy, and breed better calves for the butchers. The calves from the large cows do not ſo ſoon get fat, as they grow too faſt, are coarſer in the grain of their fleſh, and not ſo white. To make them better, the cow-keepers have their cows ſerved by a bull of the long-horned breed. Thoſe that get their calves white and bright in the fat and fleſh are very valuable.

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APPENDIX.

Directions to raiſe the Subſtitute for Madder from the Seed, and to manufacture it for Market.

THE ſubſtitute for madder is an indigenous plant, or native of Great Britain, and affects a light, deep, and dry land. The root is the moſt marketable part of the plant, and runs deep into the ground, ſometimes even to ſix feet, if not prevented by want of proper earth, or ſome other very material cauſe: ſo circumſtanced, the tap or main root commonly divides into a great number of ſmaller ones, many of which being loſt in manufacturing the article for market, cauſes a ſhort crop: in general, however, one acre of ſuitable and ordinary good land, being deep and well ploughed, may produce from three to four tons; and one ounce of the ſeed ſown on beds, to be covered with glaſs-frames in times of froſt, will produce plants ſufficient to plant out that acre.

The ſeed may be ſown in April, and will come up in ten days, or a fortnight's time, and, in two months after, is fit to be planted out: which, for the convenience of hoeing, a labour that muſt be duly attended to for the firſt and ſecond year, and to prevent the lateral roots from interfering one with another, ſhould be done at the diſtance of eighteen or twenty inches ſquare.

In about four years from the above period, the roots will, without any further trouble than occaſionally hoeing, be arrived at their proper point of maturity, at leaſt to that degree of perfection the ſuitability of the land to the plant can admit of, and therefore ſhould be taken up; but in no greater quantity, at any one time, than may be with eaſe cleaned of the earth, and, in particular, of a dirty black ſkin, or bark, which hangs looſely about them, being highly pernicious to the beauty and elegance of their colouring particles, and that may be effectually done by ſoftly rincing them in pure, and, ſhould convenience ſerve, running water. This being effected, and wiped thoroughly dry, they are immediately put into a ſtove, previouſly brought to that degree of heat which ſtops fermentation without injuring or any way ſcorching the remaining fine bark. When thus perfectly cured, they are, without loſs of time, brought to the mill, in order to prevent their imbibing moiſture of the air, which they greedily will, if permitted to do, and there put under a ſtone, on edge, to be grinded down, and immediately caſked up. The caſks, during the time of filling, are, from time to time, to be duly and regularly preſſed by weights as heavy as the caſks can bear.

The

The longer the article remains in the cask, the dyers may like it the better; nor will they purchase madder until two or three years, or even more, thus casked up, if they can be otherwise served: and, as the substitute has a very great affinity to madder, and its roots more solid by far than those of that article, it is to be presumed they must require an equal time "to make in the "cask," as the dyers phrase it, that madder roots do.

The tops of the substitute, if cut down about the latter end of June, when nearly in full bloom, will answer all the purposes of Weld, particularly in dying cotton and linen, and is to be cured and brought to market in the same manner as Weld. It effectually curdles milk, and gives the cheese a peculiar, but very agreeable flavour.

The scarlet of cochineal, and a specimen of the colour which the substitute gives to woollen goods, together with that given by madder to such, do all accompany this. Comparison will shew, that the colour of our substitute comes so very near the scarlet of the cochineal, that it loses but little by the comparison; whereas, the colour which madder gives is, by a like comparison, visibly sunk towards a brown.

Madder is sold at the average price of sixpence per pound, or 56l. per ton, and cochineal at fifteen shillings per pound, or £1680. per ton, which amounts to thirty times the price of madder, yet a pound of madder dyes two pounds of cloth a good deep colour; and a pound of cochineal dyes but sixteen pounds of the same cloth equally deep; which demonstrates, that cochineal is impregnated with only eight times the quantity of dying or colouring particles that madder is; nor is its colour at all so fixed as that of madder; notwithstanding which, the madder, sufficient to dye that quantity of cloth, or sixteen pounds, may be purchased for four shillings, when the cochineal, necessary to dye the same quantity of cloth, costs fifteen shillings. It is evident, then, upon the whole, that it is the scarlet of the cochineal which makes it so valuable at market, for, in times of war, it occasionally sells from thirty to thirty-two shillings per pound, and not altogether its being so replete with dying particles. Therefore, as the colour of our substitute comes so very close to the scarlet of cochineal, and is at the same time infinitely more fixed, may it not be reasonably presumed, that our substitute will, in the course of a few years hence, lower the value of that high-priced dying ware, to the ease of the manufacturers, and profit of the most industrious and ingenious farmers?

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